Published every Saturday by the Simmons-Boardman Publishing Company, 1309 Noble Street, Philadelphia, Pa., with editorial and executive offices: 30 Church Street, New York, N. Y., and 105 West Adams Street, Chicago, Ill.

SAMUEL O. DUNN, *Chairman of Board*
HENRY LEE, *President*
LUCIUS B. SHERMAN, *Vice-Pres.*
CECIL R. MILLS, *Vice-Pres.*
ROY V. WRIGHT, *Vice-Pres. and Sec.*
FREDERICK H. THOMPSON, *Vice-Pres.*
GEORGE SLATE, *Vice-Pres.*
ELMER T. HOWSON, *Vice-Pres.*
F. C. KOCH, *Vice-Pres.*
JOHN T. DEMOTT, *Treas.*

CLEVELAND
Terminal Tower

WASHINGTON
832 National Press Building

SAN FRANCISCO
58 Main St.

Editorial Staff
SAMUEL O. DUNN, *Editor*
ROY V. WRIGHT, *Managing Editor*
ELMER T. HOWSON, *Western Editor*
H. F. LANE, *Washington Editor*

B. B. ADAMS
C. B. PECK
W. S. LACHER
ALFRED G. OEHLER
F. W. KRAEGER
E. L. WOODWARD
J. G. LYNE
J. H. DUNN
D. A. STEEL
R. A. DOSTER
H. C. WILCOX
NEAL D. HOWARD
CHARLES LAYNG
GEORGE E. BOYD
WALTER J. TAFT
M. H. DICK

The Railway Age is a member of the Associated Business Papers (A. B. P.) and of the Audit Bureau of Circulations (A. B. C.).

Subscriptions, including 52 regular weekly issues, payable in advance and postage free; United States and possessions, 1 year $6.00, 2 years $10.00; Canada, including duty, 1 year $8.00, 2 years $14.00; foreign countries, 1 year $8.00, 2 years $14.00.

Single copies, 25 cents each.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

Vol. 97 September 15, 1934 No. 11

NRA CODE GRAPHIC ARTS INDUSTRY

In This Issue

Extensive Grade Separation Project Has Many Points of Interest ..... Page 305

A description of important track depression and elevation work which is to be completed this year by the Milwaukee Road at Milwaukee, Wis., at a cost of 4¾ million dollars.

Railways of Great Britain Reaping Rewards of Enterprise 310

C. S. Lock of the Great Western of England reviews current developments there and finds 1934 to be a year of bold policies and experiments, good will and co-ordination.

Fast Freights at Consistent Speeds 316

Tells how Richmond, Fredericksburg & Potomac trains maintain a unique record without fast running.

EDITORIAL

The Old Dealers and the New Dealers 303

GENERAL ARTICLES

Extensive Grade Separation Project Has Many Points of Interest 305
Constructive Developments Anticipated in Near Future 309
Railways of Great Britain Reaping Rewards of Enterprise, by C. S. Lock 310
Freight Car Loading 315
Fast Freights at Consistent Speeds 316
Alco 600-hp. Diesel-Electric Switching Locomotives 319
Railroad Retirement Board Answers Railroad Complaint 322
Transportation Legislative Program in Preparation 323

ODDS AND ENDS 324

NEWS 325

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

MODERN POWER THAT

In every railroading, equipment

CUTS OPERATING COSTS MORE THAN HALF

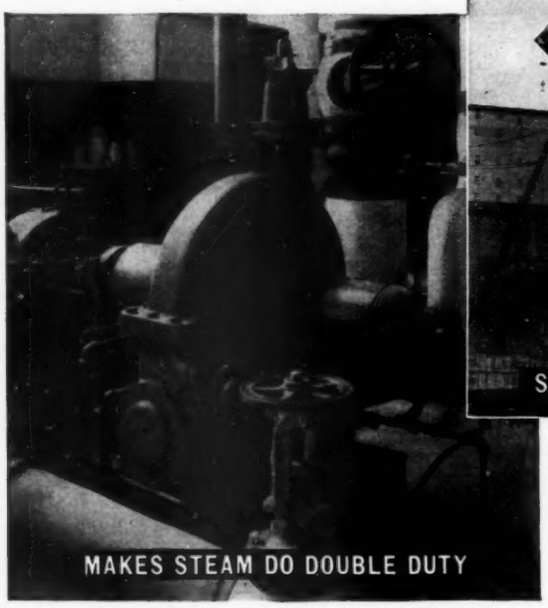
Costing less than half as much to operate as a conventional steam unit of equal capacity, the *Zephyr* — propelled by G-E motors — effects new savings for the Burlington and renews public interest in rail travel

BALLAST IS PICKED UP. SCREENED. CLEAN AND REPLACED — IN ONE OPERATION

Ballast-cleaning costs with a machine such as this—which has self-contained electric power — are substantially lower than for methods used heretofore

SPEEDS CARGO HANDLING

G-E equipped electric cranes handle cargoes speedily and safely at port terminals. The power is reliable and economical. Maintenance and man-power costs are minimized



MAKES STEAM DO DOUBLE DUTY

In the railway industry, as in many others, G-E steam turbines drive fans, pumps, blowers, compressors, coal pulverizers, and similar apparatus, and the exhaust steam is utilized for heating

HELPS LOCOMOTIVES SAVE TIME

Turntables equipped with G-E motors and control are time savers. Their high speed operation helps keep locomotives at work. They require minimum power and attention. Their motive power is reliable

LIFTS SPANS SAFELY AND ECONOMICALLY

Where rails cross water, G.E. can provide the right electric lifting equipment and apply it so that power, maintenance, and man-power costs are minimized

GE

GENERAL

RAILWAY AGE

The Old Dealers and the New Dealers

The New Deal extends into other kinds of business important policies of the Old Deal applied to transportation. This paper would have more confidence in the sincerity and effectiveness of opponents of the New Deal if so many of them did not still favor applications of principles and policies of both the Old and New Deals that they think will especially benefit their own communities or themselves. Many business men, while ostensibly opposed to government in business, rushed into NRA to get the government farther into business to pull their particular chestnuts out of the fire. It is still hard to eat one's cake and have it. Government in a democratic country always is essentially political. Labor leaders have more political influence than business leaders. Anybody familiar with railroad experience could have told leaders in other industries that by helping create NRA they were helping create a combination of politicians and labor leaders that would put these industries in the jeopardy they are in today.

St. Lawrence "Seaway"—Both Old Deal and New Deal

Despite the last year's enlightening experience, many business interests are still short-sighted optimists enough to believe it possible to continue applying the principles of the Old Deal to transportation and prevent extension of the same principles of the New Deal into other kinds of business. For example, the Chicago Daily News and the Chicago Tribune, while among the foremost and ablest critics of the New Deal, are still advocating for transportation Old Deal policies that are indistinguishable from those of the New Deal. The News is advocating construction of the St. Lawrence "seaway." The Tribune is opposing legislation to withdraw subsidies from and increase regulation of carriers that compete with the railways.

The St. Lawrence "seaway" is no less in principle and prospective effect a New Deal project because it was advocated by the Hoover administration under the Old Deal. The Hoover administration often honored more in the breach than the observance its ostensible principles of rugged individualism and less government in business. Witness its Boulder Dam, inland waterway and farm policies. The St. Lawrence project violates almost every economic principle that opponents of the New Deal profess to support. It would involve a huge expenditure of government money, although they profess to favor a reduction of government expenditures and taxation. It would put the government into direct competition with power companies and the railroads, although opponents of the New Deal profess to be opposed to competition of the government with its citizens. Including taxes, the cost of transportation by the "seaway" would be greater than by rail—in fact, the increased cost to the taxpayers would be two or three times the saving to the shippers. The economic unjustifiability of the project has been repeatedly demonstrated by such experts as Dr. H. G. Moulton, president of the Brookings Institution, and engineers employed by the Montreal Board of Trade. It rates with the Tennessee Valley and Columbia River projects of the New Deal. Why advocate it and urge others to oppose the New Deal?

Subsidies—Old Deal and New Deal

And upon what principle, consistent with its bitter opposition to the New Deal, does the Chicago Tribune oppose legislation to withdraw subsidies from and regulate carriers that compete with the railways? "We therefore again take the opportunity to remind Mr. Eastman," said the Tribune in an editorial on September 10, "that the lack of an opponent with whom to fight is the underlying cause of the long existing state of coma from which the railways recently have shown unmistakable signs of recovery. Why put them back to sleep and the rest of the transportation agencies with them?" Does the Tribune favor government subsidization of other carriers to provide competition with the railways? It often discusses transportation and contemptuously berates railway managements, but never apparently has said anything that answers this important question. If it favors government subsidies to provide competition with the railways, does it favor subsidies to provide competition with other industries as somnolent as it claims the railways have been? If so, what other industries? The New Dealers claim there are many that need government aid or repression. If it favors government subsidization of competition with either one or numerous industries, why does it rage daily against such New Deal policies?

The Tribune contends that regulation helped cause the coma of the railways and should be reduced as to them rather than applied to their competitors. It ought

to know. It was a leading advocate of most present forms of railway regulation. Its views as expressed within recent years, however, have been more heated than informing. It is strongly opposed to the regimentation of industry. The railways are our most regimented industry. Would the Tribune reduce railway regulation until it was just equal to that of other carriers? Or would it reduce railway regulation and increase regulation of other carriers until they reached equality? Or, besides hurling its thunderbolts at railway managements for bowing under regulation most of which it advocated, and opposing similar regulation of other carriers, just what would it do? It has contributed nothing as yet toward solution of the transportation problem because, while constantly denouncing both railway regulation and management with sweeping unsupported generalizations, it has never troubled itself to state specifically what changes, and all the changes, in the regulation of railways and other carriers it favors.

Playing Politics—Old Deal and New Deal

The *Railway Age* was among the first publications in the country to begin criticising NRA and other New Deal policies, to show why they would cause the business recession which has occurred, and to advocate more constructive policies. This paper has also, however, pointed out throughout the last year that many of these policies are merely the extensions into other fields of policies for the application of which to transportation many Old Dealers are principally responsible. The Old Dealers find it hard to listen to this. There are none so deaf as those who will not hear.

The Old Dealers complain that the New Dealers are playing politics, largely with government money, for their own selfish purposes or to accomplish a socialistic revolution. Is this any worse for New Dealers than Old Dealers? Is it any worse to spend government money on the Tennessee Valley project to compete with private business and placate southern voters than to advocate its expenditure on the St. Lawrence "seaway" to compete with the railways for the supposed benefit of Chicago regardless of the effects on the rest of the country? Is it any worse for labor leaders to play politics to strengthen the unions than for business interests to play politics regarding the transportation problem to get freight hauled on highways and waterways largely at the cost of the taxpayers and regardless of the incidental destruction of railway earning, employing and buying capacity?

Old Deal Reform to Beat "Reform"

Many of the Old Dealers have invited the New Deal policies by selfishness, hypocrisy and dishonesty both in business and in public affairs. They cannot beat the New Deal while opposing or advocating policies identical with its policies, according to whether they regard them as favorable or unfavorable to their own political or business interests. They must reform if they are to beat New Deal "reform." They will have to beat it by standing for their professed principles, whatever may be the effects of specific applications of them. Continuance of the Old Deal in transportation and prevention of the New Deal in other industries are as incompatible as socialism and individualistic capitalism. We have so many socialistic policies already principally because the Old Dealers have promoted, and still promote, those regarded by them as in their interest. It will be painful for them to become consistent. But a painful consistency is one of the prices they must pay to prevent application to their own business of New Deal policies for which Old Deal transportation policies still advocated or defended by many Old Dealers afford a precedent.

The Basic Change in Rail Transportation

It is high time that we realized the totally fundamental change that has taken place in the position of the railroad transportation industry, for it requires a complete reorientation of our national policy in the matter of rate-making. The policy which we finally adopted and expressed in our laws was predicated upon the theory that railroad transportation was a monopolistic or semi-monopolistic affair and, therefore, needed strict legislation to prevent exploitation of the public by exaction of exorbitant rates. Up to fifteen years ago the theory was true. Today it is false. Transportation has once more become essentially a competitive industry, for there are few shippers and few commodities for whom and for which there do not exist a choice of means other than the rails.

Now, under the old theory, we gradually built up an extremely meticulous system of rate regulation, as a result of which we developed a most rigid rate structure, and an extraordinarily cumbersome and time-consuming process of administration . . . Railroad transportation is no longer even semi-monopolistic. It is, in the essentials, in the position of the "common carrier" of mediaeval times where all that was demanded of him under the common law was that his rates should be public and uniform.

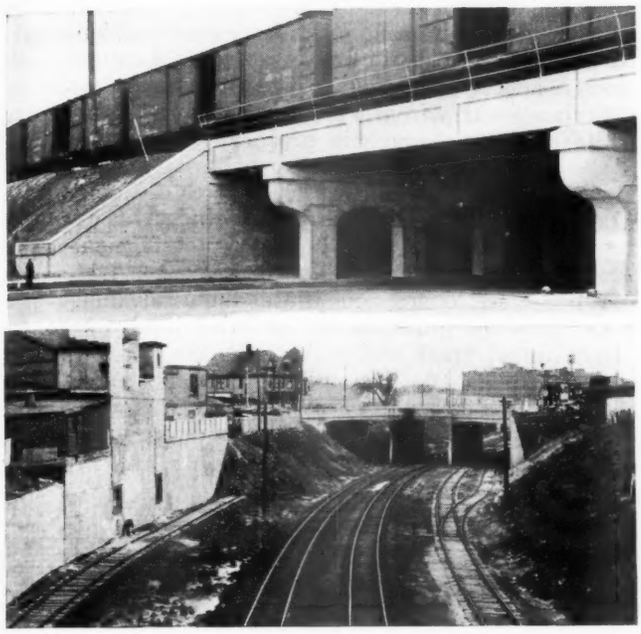
Under that system of law all that was required of a carrier was that he have a "going rate," and that this rate should be available to all who desired his services. Competition between carriers protected the "reasonableness" of the going rate . . . Today the "reasonableness" of railroad rates is protected by competition from highway and water. If anyone wants proof of that all he has to do is to look at what has happened in the past few years . . .

What, then, is the logical conclusion? If the original premise is correct, namely, that the great majority of commodities now moving in the country can be carried by transportation other than rail, then the rail carriers are entitled to the largest revenue that they can get from traffic that they can move, and the rates at which the largest revenue will result from the traffic moving under them are "reasonable" rates—subject to such exceptions as may be found to exist here and there by reason of exceptional conditions.

From which the further conclusion is that the time has come when, *for the present at least*, railroad rates may be safely left to "regulate" themselves by the old process of trial and error, subject to exclusion of discrimination.

Thomas F. Woodlock in the Wall Street Journal

Extensive Grade Separation Project Has Many Points of Interest



Above—A Portion of the Subway at Capitol Drive. Below—A Typical View of the Track Depression

Important track depression and elevation work on the Milwaukee Road at Milwaukee is to be completed this year at a cost of 4¾ million dollars

ENGINEERING problems of a varied and complex nature were encountered in carrying out an extensive grade revision and separation project that the Chicago, Milwaukee, St. Paul & Pacific is completing this year at Milwaukee, Wis. Involving the depression of 2.45 miles of track, the elevation of 2.55 miles and the construction of 13 grade separation structures at intersections with city streets, this project will be completed at a cost of about 4¾ million dollars. One of the outstanding features of this project was the extensive use of slope easements from the owners of adjacent property as a means of avoiding the construction of high retaining walls.

Involving about five miles of line, laid for the most part with four or more tracks, the prosecution of the work has been subject to numerous complications arising from the restricted right-of-way, the proximity of structures on adjacent private property, the depth of the grade depression, which ranged up to 28 ft., and the necessity of providing continuous train and switching service over the line during the construction period. The project, however, in addition to providing for the separation of all grades with intersecting city streets, resulted in a reduction of the maximum grade from 1.1 per cent uncompensated to 0.66 per cent compensated. It also embraced the construction of a new local freight house and team yard, and a large supporting yard for the improvement of car delivery and pull-out service for industries in adjacent territory.

The Situation

This project involves that part of the Milwaukee Terminal division that extends almost due north for about five miles from a junction with the La Crosse and River division to a connection with the Milwaukee and the Superior divisions in North Milwaukee. Prior to the inception of this work, the line ascended from the Menomonee River valley on a grade of 1.1 per cent uncompensated to a summit near North avenue, north of which it descended on moderate grades to a point near Capitol drive, beyond which it again ascended on a light grade. On the ascent from the valley to about

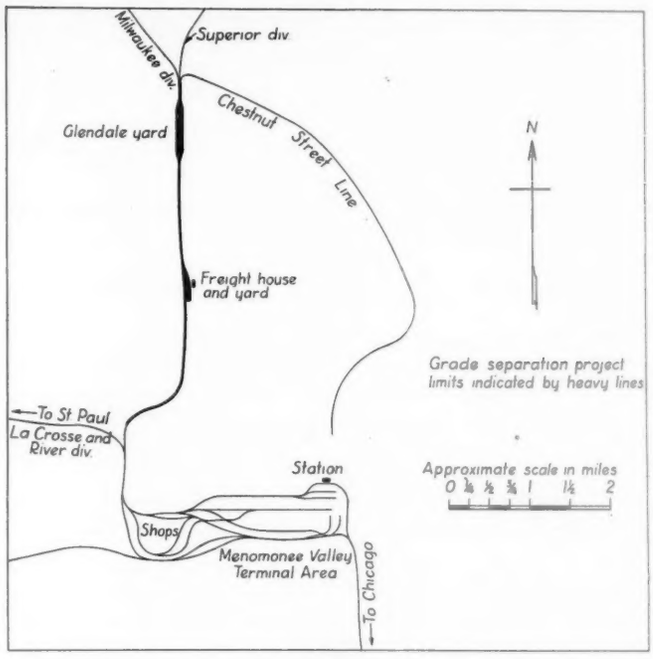


Diagram of the Milwaukee Road's Facilities at Milwaukee

Thirty-Fifth street the line crossed only two streets, namely, State street, which passes under the tracks in a subway, and Highland boulevard, which is carried overhead by a masonry arch viaduct. Beyond Thirty-Fifth street, however, the line crossed many streets at grade, while Fond du Lac avenue and Locust street, which intersect on the right-of-way, were carried under the tracks in a double subway.

The traffic on this line includes the passenger and freight trains of the Milwaukee and Superior divisions, and switching service to many industries located adjacent to the right-of-way, including some of the largest industrial plants in the city. In addition, heavy transfer movements are occasioned by the fact that the line

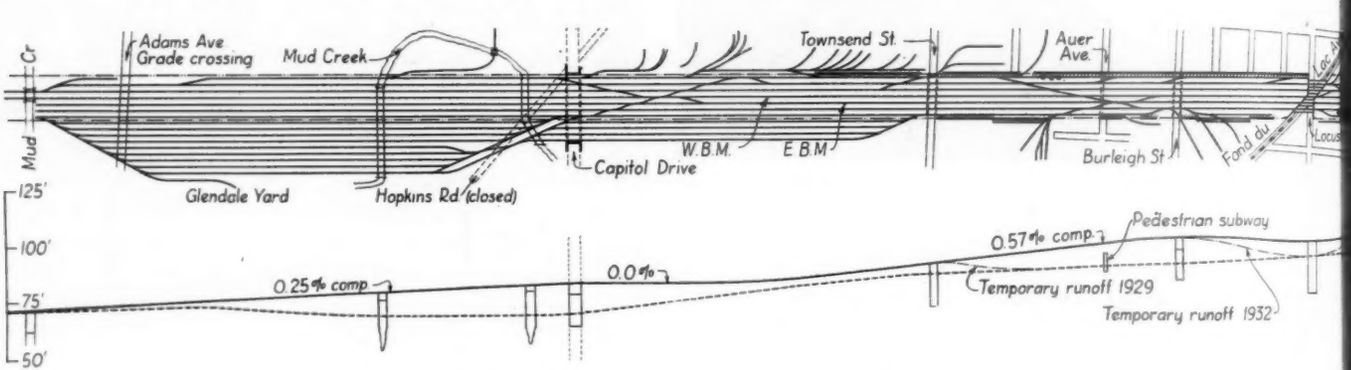
Construction View of the Subway at Fond du Lac Avenue

serves as the connection between the railway's classification yards in the Menomonee River valley and its Chestnut Street line, a spur six miles long that serves several large breweries and other industries in the northeastern part of the city.

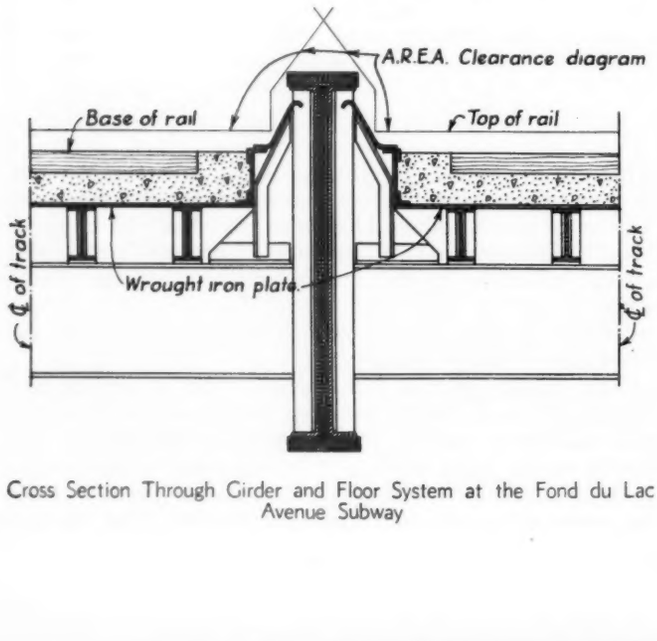
The physical character of the line, with its heavy grade, naturally favored track depression to the extent that this would result in an appreciable reduction in the grade. Accordingly, the Railroad Commission of Wisconsin (now the Public Service Commission) issued an order in 1915 providing for grade separation by track depression from State street north to Clark street, resulting in a reduction of the grade to 0.66 per cent compensated, but north of Clark street to Fond du Lac avenue the railroad was authorized to elevate its tracks. The total line distance embraced in this order was 2.45 miles. In 1929 the Public Service Commission issued another order providing for the separation of grades by track elevation from Fond du Lac avenue north to North Milwaukee, 2.28 miles.

The entire project called for the construction of eight overhead street bridges, four underpasses, two pedestrian subways and one pedestrian overpass. In addition, the existing street subway at Fond du Lac avenue was reconstructed to permit it to carry additional tracks. Work was begun on the project in 1927 and is to be completed this year. Originally this line had two main tracks, with a varying number of side tracks, but in the revised layout provision has been made for at least four tracks throughout, with six or more tracks at some locations. All street viaducts are designed to span 6 tracks, while the underpasses carry from 5 to 11 tracks. The right-of-way is 100 ft. wide throughout practically the entire length of the line, little additional property having been acquired in carrying out this project except north of Capitol drive where it was necessary to widen the right-of-way to accommodate a new yard, known as the Glendale yard, which has a maximum of 16 tracks.

While track depression afforded the advantage of a more favorable grade, it imposed the disadvantage, inherent in all track depression projects, of formidable obstacles to an effective utilization of the entire right-of-way. In this project this difficulty was accentuated by the depth of the cut, which ranged up to a maximum of 31.5 ft. In some locations the railroad avoided the expense of constructing retaining walls by applying a novel plan that has proved highly advantageous. This comprised the purchase from abutting property owners of permanent slope easements, or the right to grade the adjoining property on a natural slope from some line on the original surface mutually agreed to, the property owner retaining the right to put his land to any use that does not interfere with the maintenance of the slope described in the instrument. In some cases the slope thus determined intersects the subgrade at the right-of-way line, while in other cases it intersects the right-of-way line at such elevations as to require the construction of low retaining walls. In some instances adjacent buildings were either cut off or moved back from the right-of-way line in order to permit excavation to the slope agreed upon.



Profile and Track Diagram of the Track Elevation Portion of the Project



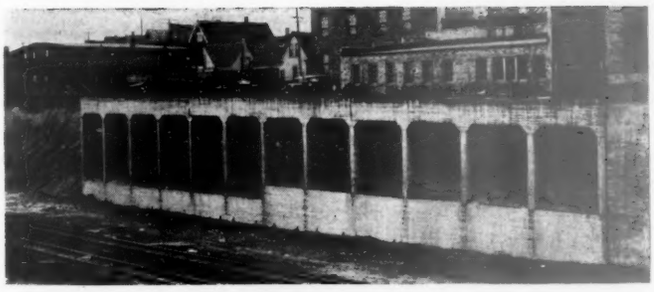
Cross Section Through Girder and Floor System at the Fond du Lac Avenue Subway

Some Retaining Walls 34 Ft. High

Where it was not possible to apply the foregoing plan, concrete retaining walls were constructed at the property line, these walls reaching a maximum height of 34 ft. At some locations these walls are surmounted by cast-in-place reinforced concrete fences as a protection against accidents. At certain points where the cut is not so deep and where it was not necessary to utilize the full width of the right-of-way, walls of precast reinforced concrete cribbing were installed to retain the slope.

Another problem presented by the lowering of the grade was that involved in maintaining service to industries located adjacent to the property. In many cases it was necessary for the industry to underpin its establishment, construct platforms at the new car floor level and install elevators to handle merchandise between the platform level and the upper floors.

On that part of the line that was elevated, the raise in grade amounted to a maximum of 14 ft. In this section the embankment is supported by concrete retaining walls at some locations and crib walls at other points, while in a number of instances the slope is allowed to encroach on private property under easements obtained for this purpose. North of Townsend street to the end of the project the embankment is allowed to find its own slope on the railroad's property with a single exception where one short piece of retaining wall was built. The leads to most industry tracks are raised to the new track level on earth embankments, although in one case an industry track is carried on a concrete and steel trestle.



An Unusual Type of Retaining Wall Constructed by One of the Industries Along the Line

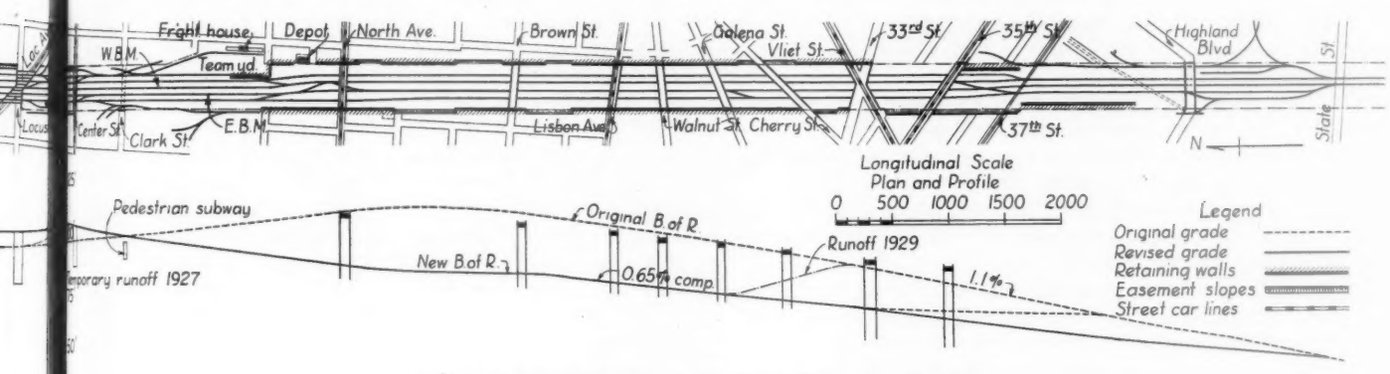
Design of the Subways

The subways constructed on this project embody a variety of designs, which were imposed on the one hand by varying conditions and on the other by new developments in bridge design that took place in the periods between the construction of the various subways. In particular, the subway carrying Fond du Lac avenue and Locust street embraces a number of unusual features. This structure, carrying five tracks, was built to replace an old subway at the same location and was the last of the subways on the project to be constructed. As Locust street and Fond du Lac avenue intersect practically at the center line of the bridge and as the presence of a city sewer at this location prohibited further depression of the street grades, the problem was to develop a skew structure with a maximum clear span of 114 ft. and with a minimum floor thickness.

The design developed for this location consists of half-through plate girders spanning from curb to curb and supported on reinforced concrete box abutments spanning over the sidewalks. There are six of these plate girders ranging from 81 ft. to 114 ft. center to center of the bearings. As a means of reducing their weight, the web and flanges are made of silicon steel proportioned for a working stress of 24,000 lb. per sq. in. The girder span has a floor system of stringers and floor beams made of CB-section beams covered with ½-in. plates of wrought iron, spot-welded to the tops of the stringers through holes in the plates and butt-welded at the joints. This plate affords the support for ballasted track. The use of these wrought iron plates in place of reinforced concrete slabs, as a means of reducing the dead load and the depth of the floor, is a practice recently adopted by this railroad, so recent, in fact, that it was still in the development stage when the other subways were being designed.

Owing to the fact that the end bearings of the girders must conform not only to the deflections of the girders they support but are subject also, because of the sharp skew, to the effect of the deflection of the adjacent girders, the bearing shoes are provided with concave spherical surfaces where they rest on corresponding convex surfaces provided on the top of the pedestals.

The abutments of this bridge comprise rigid frames embracing the back wall, curb columns, sidewalk deck slab and a composite footing. Although the abutment footings receive some support from the footings of the old subways, which were not removed, this fact was not taken into consideration in the design of the present footings.



Profile and Track Diagram of the Track Depression Territory

Subway at Capitol Drive

Another subway which has a number of features worthy of attention is that at Capitol drive, a wide thoroughfare of recent construction. This subway, which carries 11 tracks, has two 38-ft. roadways and a 15-ft. 3-in. sidewalk along each side, with concrete bents at the curbs and a concrete center bent. The main spans consist of 180-lb. 30-in. CB section beams covered with

Many Adjacent Industries Were Forced to Underpin Their Plants and Construct Elevators

a 6-in. reinforced concrete slab while reinforced concrete slabs span over the sidewalks between the curb bents and the abutments. Separate footings, all on natural foundations, are provided for the curb bents and the abutments, the latter, as in all other similar structures in this project, being of the semi-gravity type. The concrete slabs are covered with a three-ply membrane waterproofing which, in turn, is protected with ½-in. asphalt plank, this protection also being applied to the backs of the abutments.

When viewed from the roadway, this subway has the appearance of a reinforced concrete structure, this effect being due largely to the use of concrete facia beams with recessed panels, which were cast in place along the outside CB sections in the main span on both sides of the structure. In order to add strength to the impression thus created, the cast steel bearings for the CB sections in the main span, which are partially imbedded in the caps of the curb and center bents, are completely hidden from view by a covering of sand-cement mortar that tapers off from the tops of the bearings to the edge of the concrete cap.

At Burleigh Street

The subway at Burleigh street, carrying six tracks, is a three-span structure of CB sections carried on structural steel bents at the curbs and on concrete abutments at the street line. The beams are covered with a concrete slab floor varying in thickness from 9 in. at the south end to 6 in. at the north end and water-proofed in a manner similar to that at Capitol drive. The beams in the main span, which is 50 ft. 6 in. long from center to center of the bearings at the curb bents, are 33-in. CB sections, smaller sections being employed in the sidewalk spans. In order to insure that the beams will bear directly along the center line of the bents, the top of each bent is provided with a longitudinal steel plate having a convex curved top surface.

In general design, the subway at Townsend street is somewhat similar to that at Capitol drive, including the use of concrete facia beams, except that the former has a clear span of 40 ft. between curb bents. An unusual feature of this structure is that the south sidewalk span also carries the tracks across a private undercrossing of an industrial concern which has property and buildings on both sides of the railroad's right-of-way in this vicinity. This sidewalk span, therefore, has a total length of 25 ft. As the extreme easterly track of the eight tracks carried by this bridge is on a descending grade, it was necessary to provide for it a type of construction having a shallower depth below the base of rail than the remainder of the floor system. This track, therefore, is carried in a through-girder span having a shallow floor.

All overhead crossings, which were designed by the railroad's engineering forces, are of the same general design; consisting of reinforced concrete slabs continuous over three spans, supported on concrete abutments and bents. Each viaduct has a sidewalk along each side which consists of a thin slab supported by and cast monolithic with a facia girder and the curb. In the construction of these bridges the arches and caps of the bents were constructed as an integral part of the floor slabs. An asphalt wearing surface is provided. The abutements are of the reinforced semi-gravity type and the bents and abutments are carried on concrete footings. A headroom of 21 ft. above the top of rail is provided at all viaducts.

Work Undertaken in 1927

The first step in prosecuting the work on this project, which was started in 1927, was to elevate a short section extending from the intersection of the new and old grades at Clark street to beyond Center street, the subway at the latter street and the pedestrian subway at Clark street being completed in that year. The material for this embankment was obtained by truck haul from Center street, the grade of which was depressed somewhat in constructing the subway.

In constructing the subways and in making the fill the same general plan was employed throughout the track elevation. In this plan the westerly tracks were maintained in service at the old grade, while the east portion of the subway, together with the adjacent embankment, was constructed, following the completion of which traffic was directed over the elevated tracks while the remainder of each subway and the embankment was under construction.

The next step in the project, which was carried out in 1928, was the construction of a new freight house and team yard just south of Clark street, where connection with the main tracks is made practically at the ground level. This freight house and yard replace similar facilities in the vicinity of North avenue, which were abandoned and removed by reason of the depression of the main tracks in that vicinity.

The new freight house is a one and two-story brick and concrete structure with a concrete loading platform

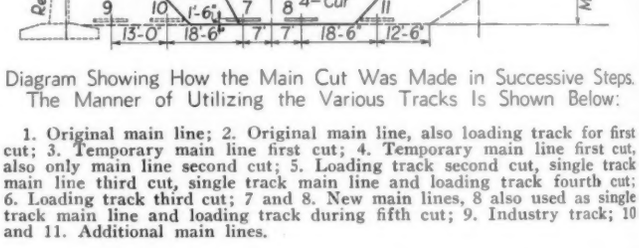


Diagram Showing How the Main Cut Was Made in Successive Steps. The Manner of Utilizing the Various Tracks Is Shown Below:

1. Original main line; 2. Original main line, also loading track for first cut; 3. Temporary main line first cut; 4. Temporary main line first cut, also only main line second cut; 5. Loading track second cut, single track main line third cut, single track main line and loading track fourth cut; 6. Loading track third cut; 7 and 8. New main lines, 8 also used as single track main line and loading track during fifth cut; 9. Industry track; 10 and 11. Additional main lines.

at each end, protected by steel frame butterfly canopies. Exclusive of the two tracks adjacent to these platforms, there are five tracks in the team yard which are served by wide paved driveways. The yard has a total capacity of 125 cars.

With the completion of the freight house in 1928 there remained no further obstacles to the inauguration of work on the depression of the line south of Clark street. Accordingly, in November of that year the excavation of the cut was started. In this work the cut was first made sufficiently wide for the accommodation of two tracks at the final grade, the work of widening it for additional tracks being undertaken later in a more or less piecemeal manner. One of the drawings shows a typical cross-section of the cut and illustrates how the excavation was made in five successive steps. Even with this schedule, there was only sufficient space in the excavation during the fourth and fifth cuts to accommodate one track, which in both instances was utilized as a loading track as well as for revenue service. The work was carried out in this manner during 1929 to a point in the vicinity of Cherry street where a temporary run-off was constructed which intersected the old grade at Vliet street.

Excavated Material Used for Embankment

All material excavated in this work, which consisted almost entirely of clay, was conveyed by train haul to the track elevation north of Townsend street where it

was dumped from a construction trestle at the beginning, and later from a dump track which was shifted as the embankment was widened. The material was loaded by a 100-ton Bucyrus steam shovel into 30-yd. and 12-yd. Western air-dump cars, the former being made up into trains of 10 cars each, while the latter were operated in 20-cars trains. Using this equipment, a maximum of 4,500 cu. yd. of material was moved in one day.

With the material thus furnished, the embankment north of Townsend street, including that for the new Glendale yard north of Capitol drive, was raised to the new grade and all new tracks in that vicinity were constructed, this work being completed in 1929. Moreover, the railroad purchased additional property east of its right-of-way north of Capitol drive, on which some of this material was deposited in preparation for the construction of a future yard. A temporary run-off from the elevated track to the old grade was provided just north of Townsend street. The street subways at Capitol drive and Townsend street were not completed until 1930.

The next step in the project, which was undertaken in 1930, was the excavation for the remainder of the depression; in other words, from about Cherry street south to State street. In this work material excavated by two dragline machines was loaded into dump trucks. A portion of the material obtained here was used to raise the tracks between Townsend street and Fond du Lac avenue, some was used in the approaches to the street viaducts, and a small portion was wasted.

During 1931, a number of street viaducts were constructed, some retaining walls were built and a portion of the cut was widened. In the following year work was prosecuted actively on the track elevation and that portion from Townsend street south to a point south of Burleigh street was completed, including the construction of a subway at Burleigh street and a pedestrian subway at Auer avenue. In 1933 work was undertaken on the unfinished gap in the track elevation between Burleigh and Center streets and a new subway was constructed at the intersection of Locust street and Fond du Lac avenue to replace an old structure. This year the track elevation work in the vicinity of Fond du Lac avenue has been completed and a viaduct at Brown street has been constructed. Cut widening and the construction of additional retaining walls in the cut were carried on in 1932 and 1933 and are being constructed this year, in addition to concrete crib walls in the vicinity of Thirty-Fifth street and Vliet street.

A total of about 950,000 cu. yd. of material has been excavated in carrying out this project. Approximately 26,100 cu. yd. of concrete was used in the construction of the street viaducts and subways and about 23,300 cu. yd. was required for the retaining walls. Of the latter quantity, 12,800 cu. yd. went into walls of the gravity type, and 10,500 cu. yd. into reinforced concrete walls. The retaining walls embrace 9,200 lin. ft. of built-in-place walls from 11 ft. to 34 ft. in height and 6,000 ft. of concrete crib walls from 3 ft. to 11 ft. high.

Division of the Expense

In accordance with the Public Service Commission's order of 1915, which provided for that part of the project south of Fond du Lac avenue, the railroad was directed to pay 70 per cent of the total cost, the city 25 per cent and the local street railway company 5 per cent. Under the order of 1929, which provided for that part of the project north of Fond du Lac avenue, the railroad paid the total cost of all work done within its right-of-way, less a lump sum of $250,000 contributed by the city. In addition, the city paid for all work done off the right-of-way, including the raising and lowering of the street grades and the street improvements through the subways. The city also paid one third of the cost of such additional right-of-way for the railroad as was found necessary and contributed toward the cost of the retaining walls.

With the exception of track work, all work in connection with this project was done under contract. Contracts for excavating, constructing the retaining walls and bridges, and for removing buildings were let from time to time in such order as would facilitate progress in the project as a whole. This method had the further advantage of permitting the railroad to take advantage of current prices for labor and material and minimized the volume of work performed under sub-contracts.

All work in connection with this project was carried out under the general supervision of C. F. Loweth, chief engineer of the railway. F. M. Sloane, division engineer at Milwaukee, was in immediate charge, while J. G. Wetherell, assistant engineer, directed the work on the ground. All of the subways, viaducts and retaining walls were designed under the supervision of H. J. Hansen, assistant engineer at Chicago.

Constructive Developments Anticipated in Near Future

"WHILE the upward trend in railway affairs that prevailed for some months has been followed by a downward trend since March, there are reasons for expecting constructive and helpful developments in the near future," according to Samuel O. Dunn, editor of the *Railway Age* and chairman of the Simmons-Boardman Publishing Company, in an address at the annual Better Service conference of the Norfolk & Western Railway and its employes, at Cincinnati, Ohio, on September 14. "After having declined relatively for five months," he continued, "railway freight business increased considerably more than seasonally in the week ended September 1, and there is ground for hoping that this improvement will continue. There is good ground, also, for believing that the Roosevelt administration realizes the public need of, and favors constructive federal and state transportation legislation.

"The reasons for the recent deterioration of the railway situation until it has become almost as bad as two years ago, are plain. When agreement was made in April to restore wages by installments on July 1, 1934, and January 1 and April 1, 1935, it was expected that the more than seasonal increase of freight business then occurring would continue. The contrary occurred until in July and August freight business was smaller than in July and August, 1933, and in August was relatively the smallest in any month since May, 1933. Despite previous gains, the railways were still working on a very narrow margin of net earnings. The decline of traffic, and increases in operating expenses due to advances in prices of materials and fuel under N. R. A. and increases of employment and wages, caused net operating income to decline dangerously in the four months May-August, inclusive, its decrease in July and August being about 50 per cent. Inevitably policies of retrenchment were renewed. After having increased by 100,000, the number of employes was reduced 6,500 in July and probably further in August. Railway buying,

(*Continued on page 318*)

Railways of Great Britain Reaping Rewards of Enterprise

Semi-annual statements report the first increase in revenues since 1929—Present year proving to be another of bold policies and experiments

By C. S. Lock,

Great Western Railway of England

THE year 1934 is proving to be one of outstanding developments, bold policies and experiments, goodwill and co-ordination on the British railways. The turn of the tide has come and the industry is on the road back to prosperity.

Half-Yearly Results

The upward trend of traffic which became apparent during the closing weeks of 1933 has continued so that when the 1934 half-yearly statements were published, the British railways were in the happy position of being able to report the first increase in revenues since 1929. The gross increase was £4,613,000, ($23,065,000) but, of this, £2,505,000 was absorbed by increased operating expenses, including wages of the augmented staff required to handle the extra traffic. Thus the increase in net revenue was £2,146,000 ($10,730,000).

The heavy increase in operating expenses which varied from 44 per cent of the increase in the gross receipts on the Great Western to 68 per cent on the Southern, was not unexpected in railway circles, as the great economies effected during recent years are mostly of a permanent nature so that any additional traffic must, of necessity, bear its full cost in future. This year's increased business compares with the lowest period of the five years' depression which was experienced during the first half of 1933. Compared with 1929 the 1934 net revenue was down by over £10,000,000, so that the railways have a long way yet to go before they can consider themselves back to normal.

The comparative railway revenues for the half-year were:

	(000 omitted) Passenger	Merchandise	Coal & Coke	Total
1934	£29,781	25,866	15,534	71,182
1933	£29,548	23,557	14,545	67,650
Increase	£ 233	2,309	989	3,532

In view of the uncertainties surrounding the railway outlook, and particularly because of the unions' demand for the restoration of wage cuts, the directors followed a cautious policy in declaring the interim dividends. As was the case last year, no dividends were paid on ordin-

ary stock except by the Great Western which, with assistance from reserves, declared a ¼ per cent dividend.

Actually £391,077,255 of the railway capital, a large part being of a prior charge nature, went without any return for the half year.

Below is a table showing the price of the ordinary stock:

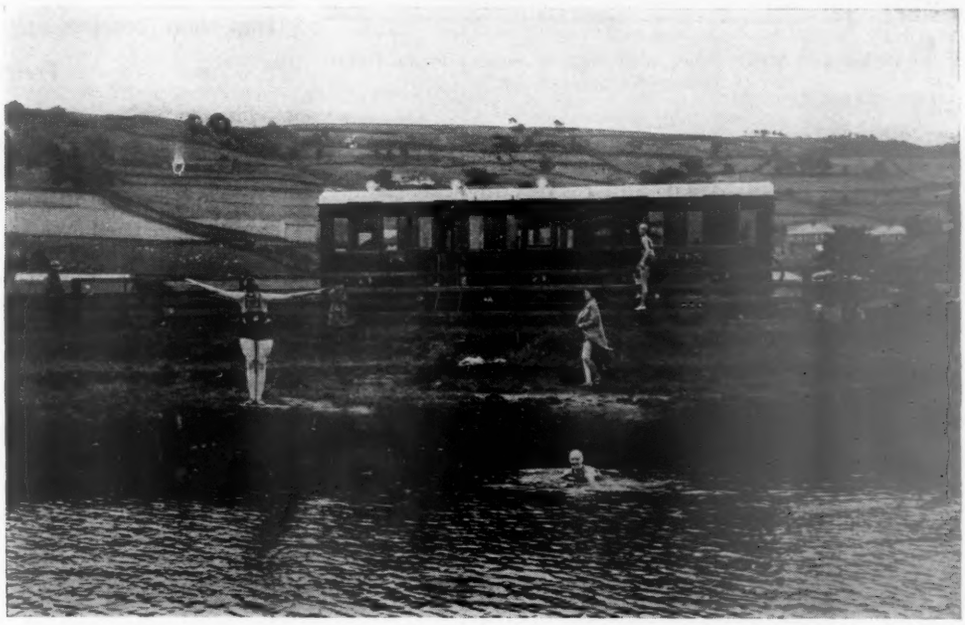
	1933 July 5	1934 July 4	Half-Yearly Dividend paid 1934
G. W. R. Cons. Ord.	42½	51	¼%
L. M. S. Ordinary	17	22	..
L. N. E. Pref. Ord.	11	16¾	..
S. R. Def. Ord.	17	24½	..

Passenger Traffic

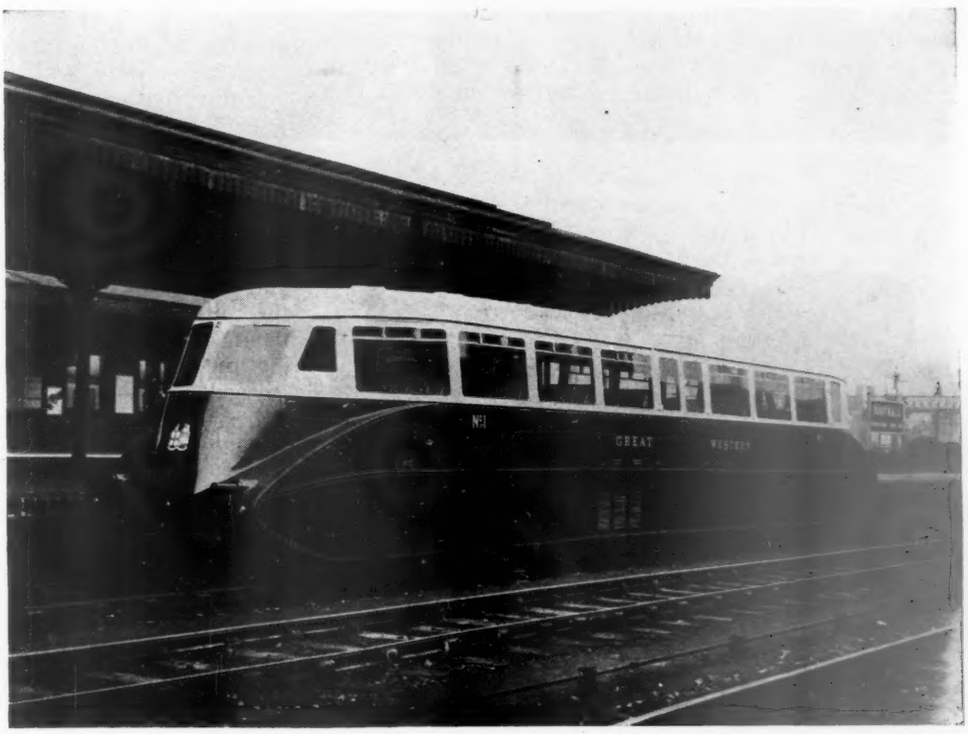
Summer passenger business again showed a marked improvement, and special services in connection therewith are to be operated until September 30, four weeks longer than in 1933. Thousands of minutes have again been cut off the journey time of trains; Sunday expresses have been accelerated, and many new services introduced. Sunday travel is now better than ever before and many districts have been opened up for holiday travel by train for the first time.

Passenger traffic is being bid for and won back by cheap, quick, comfortable travel, an outstanding example being the new tourist trains with buffet cars introduced specially for excursion passengers. These trains are composed of 12 coaches capable of seating 600 passengers, each with a separate bucket seat. Many big parties which had previously gone by highway are now returning to the rail. Quick lunch cars of unusual design, in which the counter runs from end to end, were introduced by the Great Western and are proving popular.

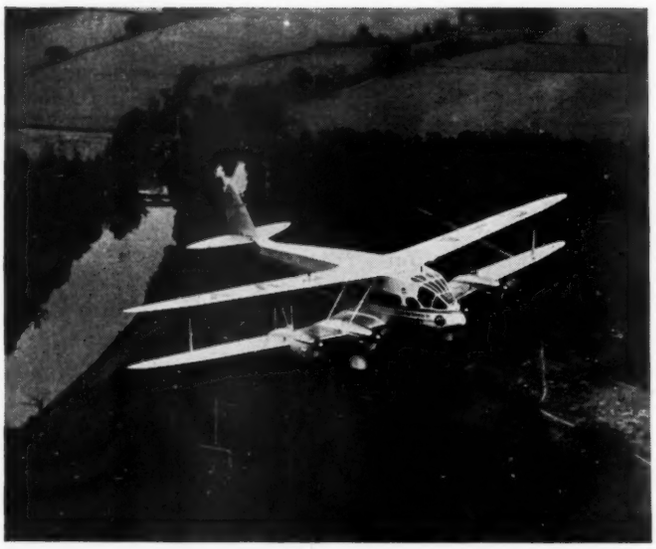
In January the railways decided to test, over a complete year, the experiment of offering penny-a-mile fares



Old Passenger Coaches Completely Equipped with Linen and Household Utensils Are Placed on Sidings at Locations Suitable for Camping and Are Then Rented to Vacationists at a Charge of About 10 Shillings a Week per Person



The Success of the First British Streamlined Car, Introduced by the Great Western, Has Resulted in the Installation of Other Similar Vehicles of Improved Design



British Railways in March Joined with Imperial Airways in the Formation of Railway Air Services, Ltd.

throughout their systems. These facilities are free of all restrictions and are available between any two stations, on any day, by any train, and carry a month's return limit. The critical question is whether a reduction from three halfpence to a penny per mile will attract the additional passengers necessary, completely to offset the loss of revenue due to the lower fares on existing traffic apart, altogether, from additional operating expenses.

Reduced Fares a Boon to Vacationists

So far, the facilities have proved a boon to millions of vacationists and business men, and although the main line railways' passenger revenue has increased only £233,000, the latest figures reveal that, for the first five months of the year, over nineteen million more passenger journeys (excluding season-ticket holders) were made on standard-gauge railways. This can only be regarded as satisfactory in view of the continued downward trend previously experienced.

Of this increase, ten millions were at Summer ticket fares as compared with a loss of four and a half millions at ordinary and week-end fares. Passengers traveling by day and half-day trips increased by no less than thirteen and a half millions. There is no doubt that these low fares, combined with rapid, comfortable rail services, are providing a formidable weapon in the railway fight with their highway competitors, many of which latter report decreased traffic. The fact, too, that the traveling public is being kept rail-minded must not be overlooked, as is proved by the success which has attended the many innovations introduced by the railways to attract additional traffic.

Another of the Camp Coaches, More Than 100 of Which Are in Constant Use During Vacation Seasons

Camp coaches are a good example. These are old passenger coaches which have been converted to provide separate living, sleeping and cooking apartments. They are completely equipped with linen and household utensils and let out to parties of vacationists at about ten shillings a week per person. Over a hundred of these coaches are now in constant use throughout the country. The sites where these vehicles stand—usually on sidings near small seaside or inland stations and beauty spots—have been specially selected so as to insure adequate water supply and conveniences. Part of the arrangement is that vacationists should use the rail in traveling to and from these coaches.

Freight Traffic

The natural sequence of trade recovery is for it to be felt first in the basic industries, and in the more specialized manufacturing industries later. Iron and steel were responsible to a great extent for the £2,309,000 increase recorded in railway revenues from merchandise traffic. There are now 101 blast furnaces working as compared with 56 in June, 1932. The increase in revenue from coal and coke traffic was £989,000 contributed chiefly by the two northern lines, the unsatisfactory position of the South Wales coal trade affecting the Great Western through whose dock the majority of the export coal passes. The latest Board of Trade returns show that the export of coal for the first half of 1929 was 28,093,639 tons as compared with 19,447,840 tons in 1934. Coastal shipping is also making formidable inroads into coal traffic conveyed for home consumption.

Improved terminal facilities and the speeding up of freight services is resulting in much quicker transits being given, and more traffic is now being provided with first morning delivery. Something like 70 per cent of the freight is now being delivered the day after it is shipped. In some cases trans-shipping centers, within an area of 30 to 40 miles, are now connected by cross-country highway services so as to insure traffic being delivered without delay.

Free collection and delivery areas continue to be extended. Further big orders for the latest type of vehicles have been placed by all the railway companies, and the motorization of their delivery services is proceeding rapidly. Among recent innovations is the introduction of the "Cash on Delivery" service to the rail. Parcels and goods, up to the value of £40, are now accepted by the railways which charge a small fee on each consignment, according to the value, for the service of collecting the amount. This arrangement also covers traffic carried throughout by the railway-highway services, either locally in towns or over longer routes.

Wages

A satisfactory solution of the wages dispute was reached early in August. The men were as anxious to participate in any trade revival as the railways were anxious not unduly to prejudice their financial positions, and the amicable agreement reached by direct negotiations showed trust, appreciation and goodwill by both parties.

The existing deductions, which have been in effect

since 1931, are roughly 2½ per cent on all earnings, and a further 2½ per cent on earnings above 40 shillings per week or £100 per year. The latter deduction is to be returned in two instalments of 1¼ per cent each on October 1 and January 1, leaving a flat 2½ per cent reduction in effect on all salaries and wages. The additional cost to the railways will be just over a million pounds in a full year.

The course of economy is still being pursued with the utmost vigor, but the great savings of recent years cannot go on indefinitely. One road alone, for instance, has reduced its expenditure by £15,000,000 in six years. The savings this year will not be known until next January but there are indications that they will be appreciable.

Pooling of Traffic

From the plans for the pooling of traffic at competitive points an annual saving of £250,000 is expected, and a similar saving is anticipated from the railways' association with passenger-carrying highway operators resulting in the closing of unremunerative branch lines. Further large savings must be expected from the purchase of the two big cartage concerns of Messrs. Carter, Paterson & Co. and Pickfords, Ltd. whose ramifications extend throughout the country, while the installation of modern signaling methods has permitted the abandonment of hundreds of signal boxes—200 alone on the Southern with an annual saving of £90,000.

The extension of the motor trolley system of permament-way maintenance is proceeding rapidly, and, although yet in the initial stages, when the whole of the systems are covered a saving of £400,000 per year without loss of efficiency has been estimated.

Modernization of Stations and Equipment

The modernization of stations and equipment, and the standardization of locomotives and rolling stock are all making for greater efficiency with less costs. As 90 per cent of the expenditure is for wages and materials and thus outside the control of railway management, continued economies are all the more noteworthy. The tendency for prices to rise, and the recent wages agreement are, however, factors which must now be taken into account.

Air Services

In March, based on the experience gained by the G. W. R. which ran the first air service during 1933, a new company known as Railway Air Services, Ltd., with a £50,000 capital, was formed jointly by the four main line railways and Imperial Airways, the principal air transport concern in the country. The latter is responsible for running and maintaining any services required by the railway companies, and the wisdom of such co-ordination, rather than competition, cannot be doubted.

Five daily services are now in operation. These link up London with Southampton; London with Birmingham, Manchester, Douglas (Isle of Man), Belfast, Glasgow and the five big Atlantic Coast ports of Liverpool, Cardiff, Bristol, Plymouth and Southampton with each other and also with Birmingham, the industrial centre of England. Highway services are provided to carry passengers to and from the railway termini and the civil airports which are being used. De Havilland "Dragon" eight-seater, two-, three- and four-engine planes of the latest type, with a cruising speed of 110 m.p.h., are used.

All the services are meeting with a satisfactory measure of success. The smallness of the country and the excellence of the existing train services do not allow of any great saving in time being effected as is the case in larger countries. The railways have no intention of competing with their own express services, but rather to afford speedier facilities over cross-country journeys. The regular carrying of mails was commenced on August 20.

Quick-Lunch Cars with Counters Running from End to End Were Introduced by the Great Western and Are Proving Popular

Heavy Oil Units

Over 80 heavy oil and diesel-electric units, both passenger and freight, are now in experimental use on the systems, the chief interest being centered in light pas-

senger rail cars which may help to solve the problems of branch-line services and also main-line services where the traffic does not justify the running of through steam trains.

The G. W. R.'s streamlined car was the first to be introduced on local services between Southall, Slough, Reading and Oxford It is 63 feet long, weighs 20 tons, seats 69 passengers, is driven by a 130 h.p. engine and has a maximum speed of 60 m.p.h. Fuel consumption is about 10 m.p.g.—approximately a halfpenny per mile—and running costs are under sevenpence per mile. The controls are similar to those of an ordinary motor car, minus the steering wheel. They are duplicated so that the car may be driven from either end, and a train crew of only two is required, an engineman and a guard. Standard motor chassis components have been used wherever possible, and all the mechanism is fitted to the underframe, leaving the whole of the floor space available for passenger accommodation. Any part can be removed or replaced immediately.

The car has been running 240 miles daily, and although 75 stops are made and the stations average less than three and a quarter miles apart, rapid acceleration makes it possible for an average speed of 35½ m.p.h. to be maintained. The success of this vehicle has resulted in similar cars, of improved design with twin engines, being introduced on the Birmingham-Cardiff main line service where traffic is light, but important. These cars have a maximum speed of 80 m.p.h. and are equipped with a cafeteria at one end.

So far, the principal steam locomotive development this year has been the introduction of the first eight-coupled passenger engine in the country by the London & North Eastern. This locomotive which was described in the *Railway Age* of July 14, is of the three cylinder type, with a tractive effort of 43,462 lbs. and is now the most powerful passenger locomotive in the British Isles. It has been designed for use in Scotland over heavy grades.

Canals

Another example of co-ordination is the agreement between the railways and the Canals Association which should result in the elimination of all uneconomic competition between the parties. In accordance with this pact both are bound to afford all possible assistance to one another, and where one party is unable to take traffic it should exert its influence to divert it to the other party's system. Over £1,000,000 has been spent by the Canals Association recently in improving its waterways, enlarging locks to take heavy-oil driven craft with a 12 ft. 6 in. beam, 4 ft. 6 in. draft, and a greater carrying capacity.

London's Transport Board

A development which will have a big effect on the railways is the formation, by act of Parliament, of the London Passenger Transport Board to take over all the passenger services, rail, highway and tramways, operating within a 30-mile radius from the centre of London. The London suburban services of the four main line railways are co-ordinated, and 600 stations and 500 million passenger journeys annually included in the pool. The railways each have a representative on a joint committee of eight appointed to consider such matters as the provision or operation of passenger services, through booking arrangements, through working arrangements and interavailability of tickets.

This co-ordination will greatly assist the improvement and development of the existing transport facilities for passenger travel within the area, and, in this, the railways must play an important part as will be seen from the fact that, in the case of the Southern, nearly one half of its total passenger revenues are included in the pool.

Road and Rail Traffic Act

The Road and Rail Traffic Act of 1933 became effective at the beginning of this year. It is designed to assist both rail and highway freight carriers to function under equitable conditions calculated adequately to safeguard the interests of trade and industry. Part I deals with the establishment of a system of licensing and regulation for motor freight vehicles. Part II gives the railways the right to charge agreed "flat" or composite rates for the transport of freight, subject to the approval of the Railway Rates Tribunal. Part III adopts the unanimous recommendation of both the Royal Commission on Transport and the Salter Conference by establishing a Transport Advisory Council for the purpose of giving advice and assistance to the Minister of Transport in connection with the discharge of his functions under the Act in relation to the co-ordination, improvement and development of the transport facilities of the country.

Under Part I, highway carriers are divided into three main classes:

A. The public carrier who carries goods for hire or reward.
B. The limited carrier who carries for the purpose of his own trade or business and also for hire or reward.
C. The private carrier who carries only for the purpose of his own trade or business.

"A" and "B" licenses are issued for two years and one year respectively, and "C" for three years, by the Licensing Authority—the Chairman of the Traffic Commissioners who are charged with the duty of licensing public service passenger vehicles under the Road Traffic Act of 1930. An applicant for an "A" or "B" license has to inform the Authority of the number and description of the vehicles proposed to be used, and also the facilities he proposes to provide, and he is entitled to receive licenses authorizing an equivalent tonnage to that used by him at any period during the year ended March 31, 1933.

Certain conditions go with the granting of a license. It is required that authorized vehicles shall be maintained in a satisfactory condition; that the law regarding speed or loading shall be compiled with; that the provisions of the Road Traffic Act relating to the time for which drivers may remain continuously on duty shall be observed; that certain records shall be kept, and that, in the case of "A" and "B" licenses, the fair wages and conditions of service provisions contained in the Act of 1930 shall apply. As regards "B" licenses, it is also within the discretion of the Authority to attach conditions regarding the use which may be made of the vehicles, such as the district in which they may operate and the class of goods which may be carried. Applicants for "C" licenses have merely to supply the Authority with the number and description of the vehicles for which licenses are sought, and the application is automatically granted.

The consideration of applications for licenses was completed by July 1, and the formalities of licensing has enabled a comprehensive survey to be made of the whole of the carriage of freight by highway in mechanically-propelled vehicles. "A" license vehicles account for a larger proportion of the total number of 400,000 vehicles used for freight transport than was previously supposed,

there being about 100,000 or 25 per cent of the total. "B" licenses were also more numerous than expected, their number being nearly as great.

Generally speaking, in the case of "A" licenses, the policy so far has been to license all vehicles already in operation wherever it could be shown that they were reasonably fully employed, but only to license additional vehicles for an established operator where it could be proved that the business was expanding so fast as to make more vehicles absolutely necessary, and to allow new entrants to the industry very rarely and only on condition that they could bring evidence of definite promises of business. Applicants for "B" licenses have been treated more rigorously, and where the extent to which the vehicles were engaged in public haulage was small, applicants have been encouraged to apply for "C" licenses instead. The authorities have been particularly severe in cases where "B" licenses were opposed by the purely haulage operators, the "A" license holders, on the grounds that return loads were being taken at cut rates. The policy seems to be to encourage operators to standardize charges over as wide a field of their activities as possible, and to prevent the expansion of the haulage industry beyond the general requirements of business.

After the initial period, applications for re-licensing will be subject to objections from "persons who are already providing facilities, whether by means of highway transport or any other kind of transport, for the carriage of freight for hire or reward in the district, or between the places which the applicant intends to serve, on the grounds that suitable transport facilities in that district, or between those places, are, or, if the application were granted, would be, either generally or in respect of any particular type of vehicles, in excess of requirements." The tendency at the moment appears to be that highway carriers are organizing for the purpose of standardizing charges and for the pooling of vehicles to eliminate waste mileage, duplicate services, and light loading.

The effect of this part of the Act on the railways may not be measured yet in traffic increases but rather in the more equitable competition which must ultimately be to their benefit.

Agreed Charges

Part II of the Act gives the railways the right to charge agreed "flat" or composite rates for passenger or freight traffic. Briefly described, the charging by distance and fixed quantities of rates go by the board as does the classification in a large degree. The shipper, on his part, agrees to employ the railway for all his transport work on the basis of an agreed rate. The agreed rate must be approved by the Railway Rates Tribunal which requires a showing that the accommodation sought by the shipper cannot be provided by exceptional rates. If another shipper prove prejudice to his business he has a right to an agreed charge if the Tribunal so orders.

An agreed charge of particular interest was that between the four main line railways, the London Passenger Transport Board, the Mersey Railway, and the Woolworth Company. Previously agreed charges had been on a tonnage basis, but in this instance it was a payment of 4.25 per cent of the purchase price paid by Woolworth for the goods to which the charge was applicable for the period February 1 to December 31, 1934. The introduction of an agreed charge on the "ad valorem" basis created a considerable amount of interest in trading and industrial circles. It was a distinct innovation so far as railway charges are concerned. The agreement covers shipments to the firm's 513 stores of some 8,000 consignments daily direct from 2,000 suppliers. Over 90 per cent of the consignments weigh less than three hundredweight.

As this is written, 74 agreed charges have been approved, and between seven and eight hundred others were pending. This new method of charging is not likely to produce quick results, and the extent to which it has contributed to the half-yearly increase is, of necessity, very small indeed. It will, however, cement traffic to the rail as most of the agreements are for periods of six to twelve months or longer.

Freight Car Loading

WASHINGTON, D. C.

AFTER several weeks of low figures revenue freight car loading took a sudden jump in the week ended September 1 to a total of 645,780 cars, an increase of 40,264 cars as compared with the week before although a decrease of 27,998 cars as compared with the corresponding week of last year. As compared with 1932 it was an increase of 84,455 cars. Grain and grain products and live stock showed increases both as compared with the week before and as compared with last year. Ore loading showed decreases in both comparisons. The largest increase was in coal loading, which was 19,124 cars more than that for the preceding week but 22,094 cars below the figure for last year. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

Revenue Freight Car Loading

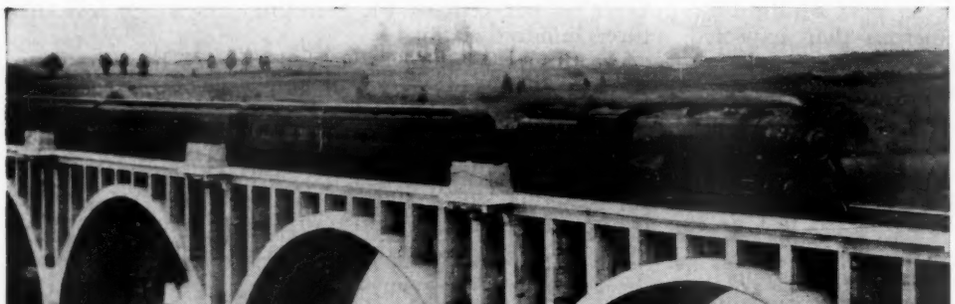
Week Ended Saturday, September 1, 1934

District	1934	1933	1932
Eastern	136,221	150,034	126,562
Allegheny	113,645	139,128	102,219
Pocahontas	44,137	49,700	38,051
Southern	88,979	88,662	83,268
Northwestern	100,675	101,916	72,870
Central Western	104,628	94,378	90,978
Southwestern	57,495	49,960	47,377
Total Western Districts	262,798	246,254	211,225
Total All Roads	645,780	673,778	561,325
Commodities			
Grain and Grain Products	38,503	32,515	40,486
Live Stock	36,850	18,610	18,598
Coal	120,106	142,200	105,429
Coke	5,280	7,432	3,440
Forest Products	21,725	25,904	16,424
Ore	26,939	41,877	5,989
Merchandise L.C.L.	162,839	172,223	174,345
Miscellaneous	233,538	233,017	196,614
September 1	645,780	673,778	561,325
August 25	605,516	637,510	537,767
August 18	600,564	643,406	518,440
August 11	602,530	629,743	511,965
August 4	611,298	620,482	496,626
Cumulative Total, 35 Weeks	20,812,316	19,047,609	18,666,647

Car Loading in Canada

Car loadings in Canada, as reported by the Dominion Bureau of Statistics, continue upward having totaled 52,888 cars for the week ended September 1, when the index number rose to 81.51, a new high for the year. Heavy loading of grain in the Western division was the largest factor in the favorable showing.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
September 1, 1934	52,888	19,983
August 25, 1934	48,220	17,566
August 18, 1934	43,828	17,527
September 2, 1933	45,546	19,918
Cumulative Totals for Canada:		
September 1, 1934	1,495,696	772,783
September 2, 1933	1,264,145	635,956
September 3, 1932	1,423,345	670,633



The New Rappahannock River Bridge Has Permitted Faster Running. This Speedy Passenger Locomotive is Used also in Freight Service if the Occasion Arises

Fast Freights at Consistent Speeds

Richmond, Fredericksburg & Potomac trains maintain unique record without fast running

BETWEEN April 27 and May 22 of this year, 124 trains of North Carolina strawberries, filled out to tonnage rating with other freight, were operated from Richmond, Va., to Potomac Yard, 104 miles, over the Richmond, Fredericksburg & Potomac, in an average time of 3 hr. 15 min. During the first six months of this year, 1,033 trains of perishables, including the strawberries above referred to, were operated over this line, also with practically full tonnage, at an average speed of 3 hr. 45 min.

Detailed figures of these runs are shown on the accompanying table. Some of the individual runs are also interesting. For example, during the month of June, 500-class locomotives, with an engine rating of 2,970 tons, made the following runs:

R. F. & P. Perishable Movement

Month	Number of Trains	Time
January	164	3 hr. 34 min.
February	138	3 hr. 45 min.
March	169	3 hr. 53 min.
April	158	3 hr. 50 min.
May	193	3 hr. 49 min.
June	211	3 hr. 34 min.
	1,033	3 hr. 45 min.

Ex 502	73 loads	7 empty	2,940 tons	2 hr. 53 min.
Ex 504	72 loads	0 empty	2,905 tons	2 hr. 57 min.
Ex 503	60 loads	0 empty	2,610 tons	2 hr. 58 min.
Ex 501	64 loads	2 empty	2,680 tons	2 hr. 59 min.
Ex 504	48 loads	5 empty	2,134 tons	2 hr. 50 min.
Ex 504	73 loads	0 empty	2,890 tons	2 hr. 47 min.
Ex 502	60 loads	2 empty	2,581 tons	2 hr. 47 min.

Fast Through Movement

At Acca Yard, the interchange yard at Richmond where the R. F. & P. receives freight from the Atlantic Coast Line, the Seaboard Air Line and other connections, the cars must be given a thorough inspection for their fast run northward, and a small amount of classification, consolidation and filling out must be done before the trains are made up. Nonetheless, the average detention of cars in Acca Yard, over a yearly period, averages only between an hour and an hour and a half.

Potomac Yard, just south of Washington, the point of receipt from and delivery to the Baltimore & Ohio and the Pennsylvania, is an efficient retarder-equipped facility owned by the R. F. & P., but operated jointly with the northern connections. Here the heavier classification necessary and the fact that the freight moves on scheduled trains, makes the terminal detention somewhat greater than at Acca Yard. Nonetheless, the movement through this yard is also efficient.

Thus, the R. F. & P. presents the interesting and unusual spectacle of receiving cars from its southern connections, putting them through two yards, with a road haul of 108 miles between, and keeping them in its possession only about seven hours from the time they are received from one connection until they are delivered to the other. This occurs on a large percentage of the cars handled by the R. F. & P. in through movement.

This is accomplished, too, with all freight locomotives equipped with speed governors set at 50 miles an hour for freight service, and not being adjustable by the enginemen. The effort has been made to get the trains over the railroad by means of a sustained speed rather than by a series of spurts down grades, the speed limit of 45 miles an hour, with a five-mile tolerance, for freight trains, being rigidly adherred to.

The dense traffic moving over the R. F. & P. has had to be given careful consideration in making these fast runs. Not infrequently, 50 passenger and 46 freight trains have been operated over the R. F. & P. in one day.

At the same time, operating efficiency has not been sacrificed to speed, as is indicated by the gross ton-miles per train hour, which, for 1932, averaged 40,940; for 1933, 41,075; and, so far this year, have averaged somewhat over 41,000. These represent large increases over the figures of only a few years ago, and by no means all of the increase is attributable to the slackening of traffic.

When the R. F. & P. was double-tracked and almost

completely rebuilt about 30 years ago, the reconstruction was accomplished along lines that were then considered proper for a fast railroad. The rather broken grade line resulted from the type of country traversed, numerous rivers being crossed almost at tidewater, with relatively high country between the valleys. However, as eventually rebuilt and while still containing numerous grades, ruling grades were reduced to 0.6 per cent northbound, the direction of heavier traffic, and to 0.8 per cent southbound.

For a number of years, the reconstruction, coupled with improvements in operating methods, was sufficient to take care of the recurring demands for faster and ever faster freight service. Eventually, it became apparent that a single-track gauntlet over a bridge over the Rappahannock river at Fredericksburg, was interfering materially with efficient operation. Accordingly, in 1927, the old, single-track bridge was replaced with a new, double-track, reinforced concrete, multiple arch bridge. At the same time, the opportunity was taken to remove a sag in the line through Fredericksburg, involving 3,700 ft. of main line change and grade elevation. The entire project, which also included new passenger facilities at Fredericksburg, cost approximately $1,150,000, and its effect in improving operations was immediately apparent. The installation of two-speed continuous automatic train control with cab signals and permissive wayside automatic signals, taken in conjunction with the speed governors, has also been of considerable aid in attaining consistent speed for the fast freight trains operated over this railroad.

In 1929, another speed restricting situation was improved at Powell's Creek, Va., by a change in alinement and the construction of a bridge, which substituted a two-degree curve for one of five degrees. This eliminated a speed restriction of 30 miles per hour.

In 1926, the standard rail section was changed from 100 lb. to 130 lb. and the present standard is 131 lb. These projects, coupled with the installation of automatic car retarders in Potomac Yard, are the only major expenditures made in recent years to meet the demand for higher speed.

The R. F. & P. management has been constantly on the alert to discover new operating methods to aid in solving its problems. In this they have been aided by the men in road and engine service. As it happens, there has been little labor turn-over in these services on the R. F. & P., the men involved being relatively young, yet with long service records on the railroad. For example, the first 46 men on the enginemen's roster average only 57 years of age, while their average service record is 35 years. Also, unlike many roads in the South, the R. F. & P. does not employ negro firemen. Furthermore, because of the relative smallness of the line, there is a personal acquaintanceship between the officers and employees which has aided materially in producing effective supervision and in ironing out supervisory problems.

The 50 locomotives in operation on the R. F. & P. are in pool service. These locomotives are of heavy Mountain and Pacific types, suitable for either freight or passenger service. Most of them were bought several years ago, but they have been modernized by the installation of automatic stokers, boosters, feedwater heaters, thermic syphons and other aids to efficient operation.

In addition, because of the small number of engines available to handle the heavy traffic, a careful and efficient locomotive utilization program is essential, it being necessary frequently to transfer freight engines to passenger service and vice versa. For this reason, the R. F. & P. has followed the policy, for some years, of giving all freight engines passenger engine maintenance, so that they may be transferred from one service to the other as the occasion demands with no other work necessary than changing the speed governors, increasing the speed limit of the freight engines to 70 miles per hour while they are in passenger service, and reducing the speed limit to 50 miles per hour on passenger engines when the reverse is true. The freight engines on the R. F. & P. average 4,500 miles a month, and passenger engines 7,500 miles a month, a mileage attributable to the careful study made of locomotive utilization and to running the engines at consistent speeds, which has had the effect of reducing the amount of shop attention required.

For many years it was thought impossible to run freight trains from one end of the railroad to the other on a non-stop basis as a daily operating practice. Many factors, such as the heavy passenger traffic and the necessity for water stops, interfered with such an operation.

With the improved signalling, including the automatic train control, however, it has been possible to make such runs safely, and without undue interference with passenger trains. All freight trains are run as extras, and there are many stretches where they are permitted to run on signal indication only. The time card instructions contain many rules such as the following:

All trains other than schedule trains will run extra without orders between Richmond and "RO" Tower.

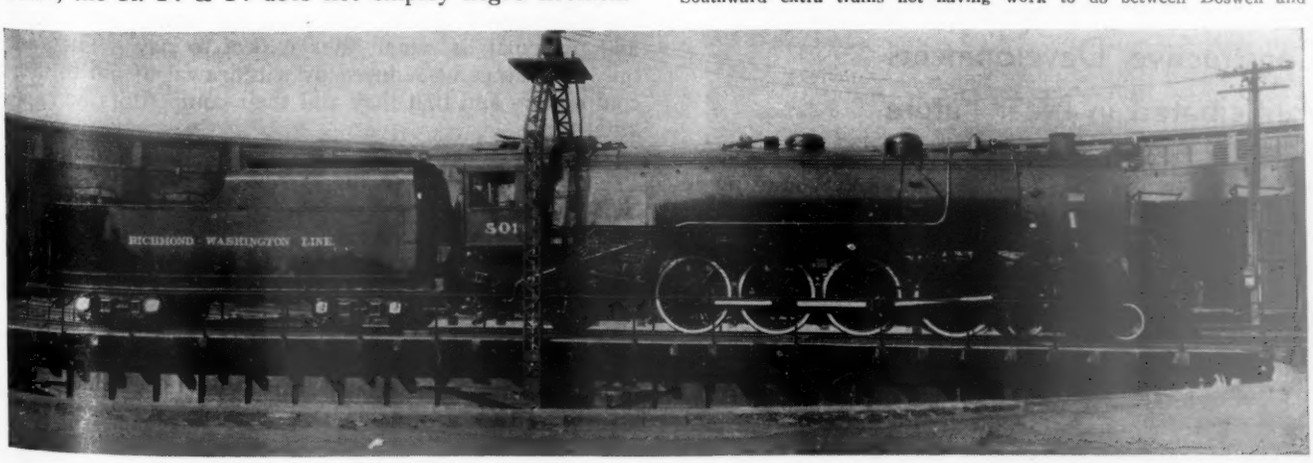
Between "AY" Tower and "NA" Tower extra trains will run on signal regardless of schedule trains.

Between "RO" and "AF" towers extra trains will run on signal regardless of schedule trains.

Northward extra trains not having work to do between "NA" Tower and Doswell, and not having to take water at Taylorsville, have the right to run ahead of schedule trains on proper signal indication "NA" Tower to Doswell.

This does not relieve crews of the responsibility of complying with Rule 83, Book of Rules, before leaving initial station.

Southward extra trains not having work to do between Doswell and



Type of Engine Used in Hauling the Fast Freight Trains

"NA" Tower, and not having to take water at Taylorsville, have the right to run ahead of schedule trains on proper signal indication Doswell to "NA" Tower.

Northward extra trains not having work to do between Doswell and "KN" Tower, and not having to take water at Milford, have the right to run ahead of schedule trains on proper signal indication Doswell to "KN" Tower.

Southward extra trains not having work to do between "KN" Tower and Doswell, and not having to take water at Milford, have the right to run ahead of schedule trains on proper signal indication "KN" Tower to Doswell.

Northward extra trains not having work to do between "KN" Tower and "WH" Tower have the right to run ahead of schedule trains on proper signal indication "KN" Tower to "WH" Tower.

Southward extra trains not having work to do between "WH" Tower and "KN" Tower have the right to run ahead of schedule trains on proper signal indication "WH" Tower to "KN" Tower.

Northward extra trains not having work to do between "CW" Tower and "AF" Tower, and not having to take water at Pohick, have the right to run ahead of schedule trains on proper signal indication "CW" Tower to "AF" Tower.

Southward extra trains not having work to do between "AF" Tower and "CW" Tower, and not having to take water at Pohick, have the right to run ahead of schedule trains on proper signal indication "AF" Tower to "CW" Tower.

Water stations on the R. F. & P., as on many other railroads, were located in accordance with operating conditions prevailing many years ago. Their location at points 19, 38, 60, 78 and 93 miles north of Richmond, respectively, made it necessary, with the 10,000-gal. capacity tenders that are standard equipment on the R. F. & P., to make two and sometimes three stops for water on the 108-mile run between Acca Yard and Potomac Yard. To offset this difficulty, and with the non-stop program in mind, 10,000-gal. capacity auxiliary tanks were purchased.

Studies indicated that the normal water consumption between Acca Yard and Potomac Yard, under former operating conditions, was 22,000 gal. However, by eliminating stops for water as well as for other causes, the present water capacity of 20,000 gal., including the tender and the auxiliary tank is ample for the run without stopping for water, in addition to supplying a reserve for emergencies.

The elimination of uneven running-fast downhill and slow uphill—and the operation under consistent, sustained speeds, have not only provided faster service but they have increased the locomotive utilization. The availability of locomotives has been increased both by the faster turn-arounds and by the fact that, operated at sustained speeds, the locomotives require considerably less shop attention than when they are permitted to rattle downhill at unduly high speeds.

The entire operation has aimed toward the running of the freight trains on as nearly a non-stop basis as possible. It has been found that sustained speed, eliminating uneven running, with attendant hot boxes and other hindrances to smooth operation, has been the answer to the problem.

Constructive Developments Anticipated in Near Future

(*Continued from page 309*)

which had trebled, has also been curtailed, causing increased unemployment in the durable goods industries.

"Most of the continuing unemployment exists in the durable goods industries. Their largest customers are the building and railroad industries. The National Housing Act recently passed by Congress was intended to revive home building and modernizing. Also essential to economic recovery is a revival of railroad buying from the durable goods industries, which was a billion dollars less annually in 1932 and 1933 than it averaged in the five years 1925-1929. The railroads need and are anxious to increase their expenditures for maintenance and many kinds of improvements. They cannot do so without a large increase in their earnings.

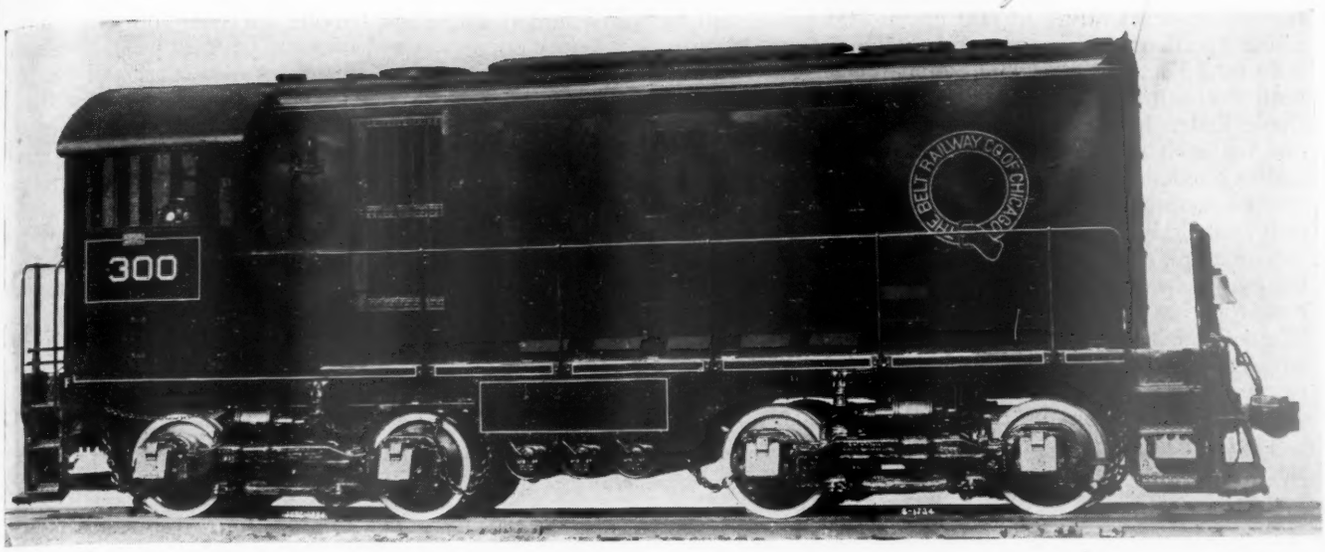
"The advance of $170,000,000 annually in freight rates for which they have asked is needed to save many of them from bankruptcy. But in the interest of security owners, employees and the public, their problem demands more fundamental treatment. Their present situation is due only party to the depression. It is due also to federal and state transportation policies of long standing, and it must be dealt with by federal and state legislation if the railways are to be made an asset instead of a liability in any program of economic recovery.

"The railway problem has become so acute and dangerous during the depression because of unfair federal and state government discrimination against them. They would have had at least $1,000,000,000 annually more gross earnings during the depression but for this government discrimination in favor of other carriers. The discrimination consists of the direct or indirect subsidizing of carriers by water, highway and air, and of comprehensive and detailed regulation of railways which has not been applied to other carriers.

"The different kinds of carriers perform different kinds of service, and each has its natural place in a well-rounded and fully developed transportation system. The only way to restrict each to the service it is best fitted to render, and give it opportunity to render its service with maximum efficiency and minimum cost to itself and the public is for the national and state governments to treat them all alike. Government policies subsidizing some and not others, and regulating some and not others, involve the squandering of billions of dollars of the taxpayers' money on un-needed facilities, make the public's total burden of transportation costs far greater than necessary, and prevent improvements of service that otherwise would be practicable. Railway freight rates could have been reduced in the past, and would require no increase now, excepting for government policies which have reduced the volume of railway traffic and thereby increased the railway cost of carrying every ton and passenger.

"The principal causes of the present railway situation suggest the obvious remedies. The recent development of light weight, streamlined, high-speed passenger trains and numerous other improvements show that the managements are ready to better railway service and reduce its cost if given opportunity to do so. They and their employees ask no opportunity excepting what would be afforded by a policy of fairness which would withdraw subsidies from other carriers and either regulate them or withdraw restrictive regulation from the railways. They are not, like some other industries, seeking aid from the taxpayers. They ask no subsidies. They seek no government money excepting in loans, the interest and principal of which they expect to pay. They ask only that taxes be reduced by withdrawal of aid to their competitors and that they and their competitors be regulated alike.

"In all of its essentials this program was advocated by President Roosevelt in his speech at Salt Lake City on September 17, 1932. It is favored by railway employees as well as railway managers. It is supported by the principal commercial organizations of the country. A large majority of the public apparently endorses it. With the railways confronting as serious a situation as any in their history—a situation which is a serious obstacle to economic recovery—it is to be hoped that Congress and the state legislatures at their approaching sessions will adopt legislation which, while only fair to railways, will be a real contribution to the revival of general business and employment."



Alco Diesel-Electric Switcher Built for the Belt Railway of Chicago

Alco 600-hp. Diesel-Electric Switching Locomotives

Maximum visibility and accessibility feature 100-ton units powered with McIntosh & Seymour engines

THE American Locomotive Company, during recent months, has built, at its Schenectady plant, several Diesel-electric switching locomotives powered with 600-hp. McIntosh & Seymour engines. Typical of these locomotives, is the one shown in the illustrations, built for the Belt Railway of Chicago, which has a total weight of 200,000 lb. and a starting tractive force of 60,000 lb. The general dimensions and characteristics of this type of locomotive are given in Table I.

The power plant and generator are in a single unit mounted on an underframe of special design of cast steel or welded structural shapes. The locomotive is carried on two four-wheel power trucks each having two traction motors. The operator's cab is at the end of the structure and the equipment hood, covering the engine and generator and the directly associated accessories, is designed to provide maximum visibility for the operator and maximum accessibility to important parts. The forward hood, covering the engine unit, is readily removable for access to the engine when major shop repairs are necessary.

Table I—General Dimensions of Alco Diesel-Electric Locomotive

Length overall, inside coupler knuckles	40 ft. 10 in.
Width, overall	10 ft. 3½ in.
Height, from rail (maximum)	14 ft. 5 in.
Truck center distance	27 ft. 4 in.
Truck wheel base	8 ft. 0 in.
Truck wheels, diameter	3 ft. 4 in.
Total weight of locomotive	200,000 lb.
Weight of engine, generators and bed	49,000 lb.
Weight of one truck, complete with motors and brake rigging	38,200 lb.
Total weight on drivers	200,000 lb.
Tractive force (starting)	60,000 lb.
Maximum speed	40 m.p.h.
Minimum radius curvature (locomotive alone)	50 ft. 0 in.

The Power Plant

The power plant consists of a 600-hp. McIntosh & Seymour Diesel engine having six cylinders cast en bloc. The engine operates on the four cycle single acting principle with mechanical fuel injection. The engine has a

Tractive Force—Speed Curve

normal sea-level rating of 600 hp. at 700 r.p.m. and an idling speed of 350 r.p.m. The cylinders are 12½ in. bore by 13 in. stroke. The cylinder blocks are cast of semi-steel with special close-grained cast-iron liners and the cylinder heads are separate castings of semi-steel, one for each cylinder. Each head contains two intake and two exhaust valves as well as the fuel-injection nozzle, all arranged symmetrically. The valve operating gear is entirely enclosed and pressure lubricated.

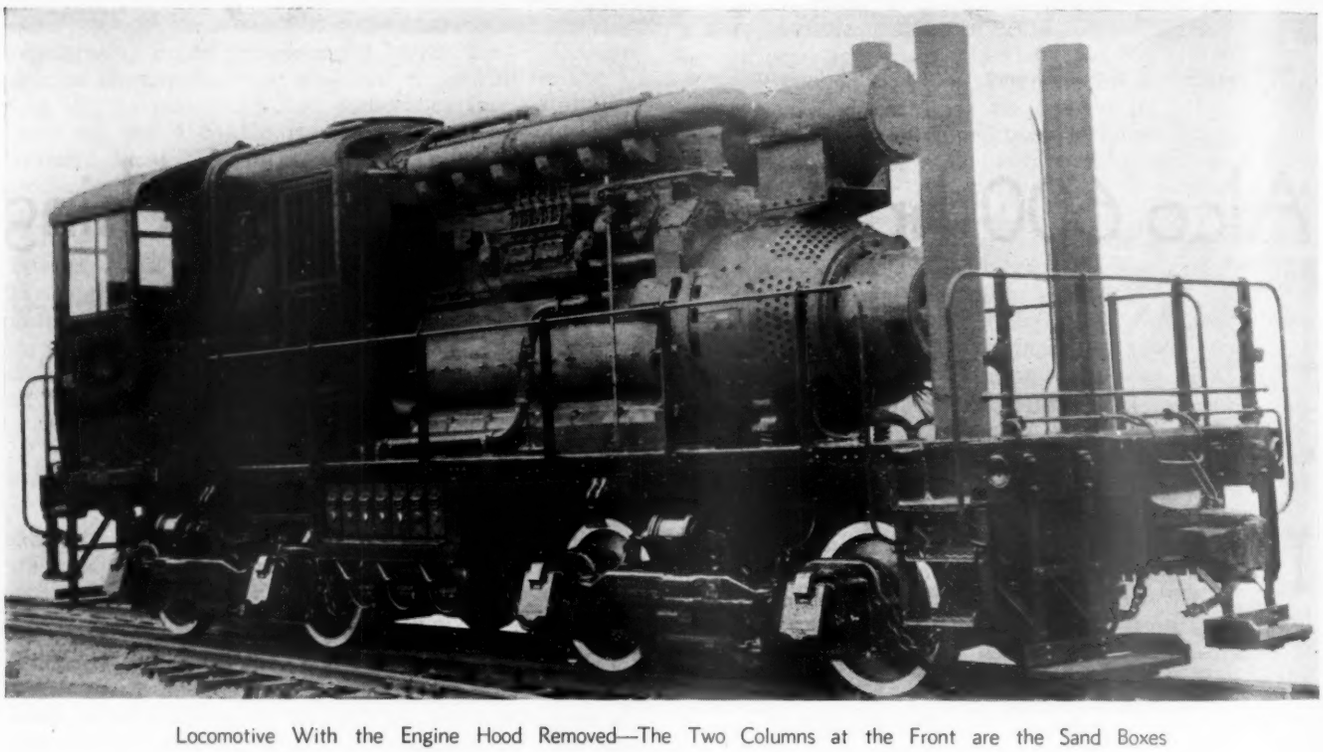
The crank shaft is mounted in seven main bearings in the engine base. The pistons are of the trunk type with cast-iron rings. The connecting rods are steel forgings. The engine base is also extended to provide a base to which the generator frame is bolted and access to the running parts in the crank case and base is provided by detachable covers on the side of the base.

The fuel is pumped from the fuel-oil reservoirs by a single pump to an injection-pump unit containing six individual pumps, one for each cylinder. The injection unit is mounted on the side of the cylinder casting in such location as to assure minimum fuel-line lengths.

The lubricating-oil reservoir is located in the engine base and all important moving parts are lubricated under pressure by a power-driven oil pump.

Radiators of ample capacity to take care of the circulating water and engine lubricating oil are mounted in a compartment between the engine and the operator's cab. The water is circulated by a centrifugal water pump and the circulation of air through the radiators is assured by a motor-driven fan.

The electrical equipment consists primarily of the main and auxiliary generators and the traction motors. The main and auxiliary generators are overhung from the engine and driven by the main engine shaft. The main generator is a General Electric DT-526 of the differential-field-control type having characteristics especially adapted to switching service. The auxiliary generator is of the constant-voltage type (125v.) maintaining this voltage regardless of engine speed. This generator furnishes current for the charging of the 56-cell heavy-duty storage battery for starting the engine as well as power to such auxiliaries as the 100-cu.-ft. air compressor, radiator-fan motors and traction blower motors.



Locomotive With the Engine Hood Removed—The Two Columns at the Front are the Sand Boxes

Table II—Operating Data on 600-Hp. Diesel-Electric Locomotive on Road "A"

Month	Hours operated	Fuel oil, gallons	Lub. oil, gallons
March	701	4,390	20
April	638	3,165	..
May	668	3,217	130
June	684	3,190	10
July	677	3,449	10
August	663	3,356	133.5
September	661	3,205	15
October	439	2,149	15
November	615	3,494	135
December	673	3,641	30
January	683	3,673	31
February	507	2,721	..
Total	7,609	39,750	529.5
Gallons per hr.		5.22	.0696

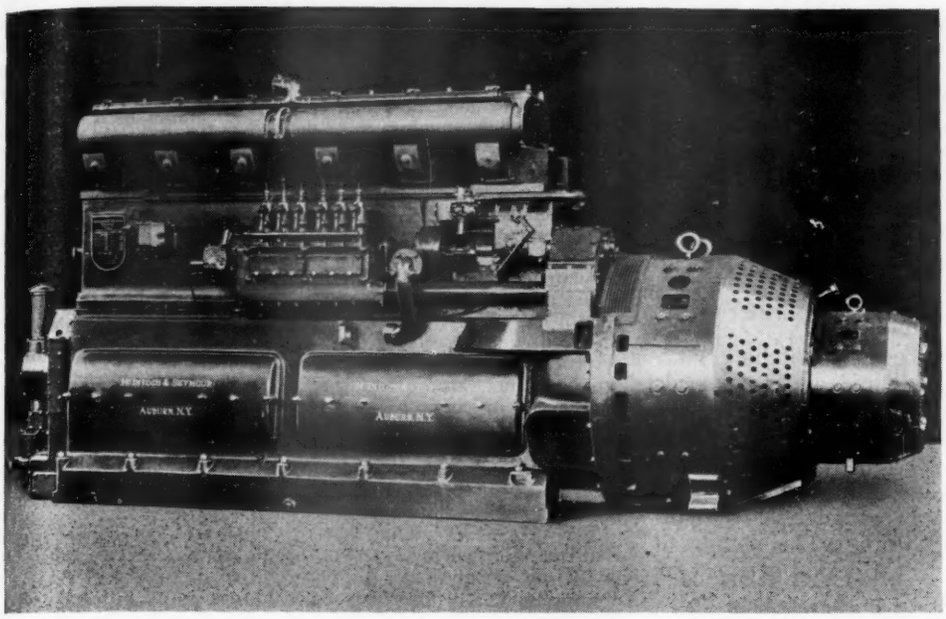
During this year this locomotive was in the shop ten days for its yearly overhaul which required the following man-hours of work:

	Man-hours
Diesel engine	257½
Mechanical including wheels turned	249⅔
Electrical	61
Total man-hours	568⅙

The entire control of the locomotive is embodied in the operator's throttle which simply regulates the speed of the Diesel engine. Reversal is effected by a master controller. The motors operate in series at low speeds and are automatically changed by a voltage relay to series-parallel. By automatically shunting the fields of the traction motors higher running speeds are obtainable but the operator may forestall the higher running speeds by setting the electrical controller on the series or series-parallel position.

Four single-geared commutating-pole type traction motors, class GE-287 are supported on the truck axles, to assure gear and pinion alinement, and on the truck bolster by means of a motor nose on spring supports. Especially designed for switching service, the motor losses, particularly at high tractive forces, are relatively low per kilowatt of power input.

The underframe generally is of cast-steel construction but some locomotives of this type have underframes fab-



The McIntosh & Seymour Six-Cylinder Diesel Engine Develops 600 Hp. at 700 R.P.M. The Main and Auxiliary Generators are Part of the Unit Assembly and are Driven from the Engine Shaft

ricated of structural shapes and plates welded into a single structure with cast-steel bumpers at the front and rear. Standard A.R.A. couplers and pockets are used.

The power trucks, two in number, are of the four-wheel center-bearing type having a special design of cast-steel bolster. Each truck equalizer, or what in this case may more properly be termed the side frame, is a steel casting at each end of which is the truck-box pedestal. Single, long semi-elliptic springs, one suspended by hangers in each side-frame casting, carry the load. The bolster casting is designed to form the nose mounting for the two traction motors on each truck and two brake cylinders are mounted outside of the springs. The ends of the longitudinal side extensions of this casting carry vertical wearing pads bearing against similar pads on the side frames just inside the truck boxes. These keep the truck square in horizontal alinement without interfering with vertical flexibility.

The principal feature of this truck is that the construction provides for positive equalization at all times without the distortion of any truck members regardless of any uneven track condition. The low side frames and absence of end frames allow ready accessibility to the inspection covers and oil reservoirs of the traction motors. The brake rigging is all placed on the outside of the truck so that brake adjustments, inspection and brake-shoe renewals can be made with a minimum loss of time.

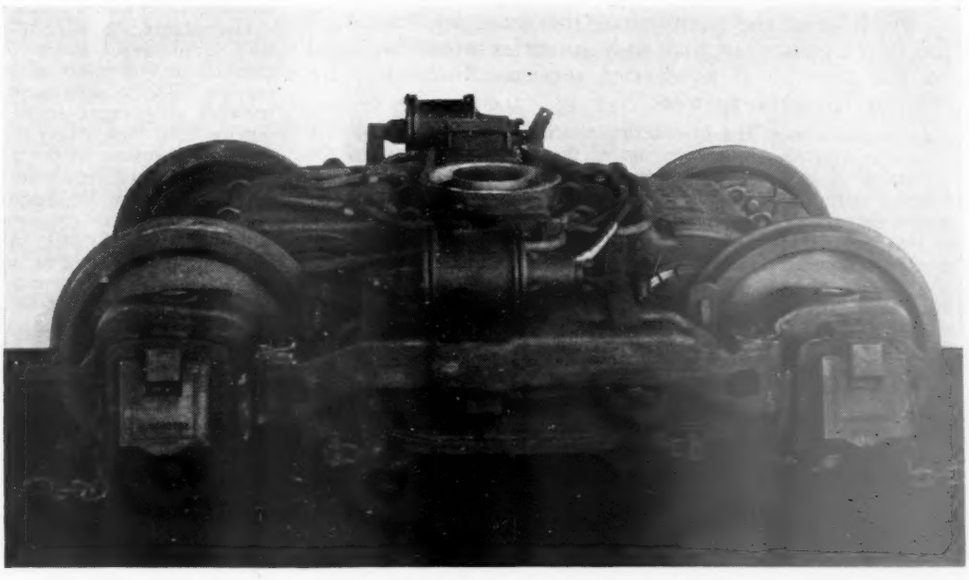
Table III—Operating Data on 600-Hp. Diesel-Electric Locomotive on Road "B"

Month	Hours operated	Fuel oil, gallons	Lub. oil, gallons
January	498	2,014	15
February	685.5	3,942	20
March	720	3,640	20
April	696	4,032	183
May	720	3,976	15
June	688	3,819	20
July	696	3,752	125
August	722.5	4,816	18
September	702.5	5,172	10
October	707.5	4,622	135
November	699	4,068	45
December	547	4,040	5
Total	8,082	47,893	611
Gallons per hr.		5.93	.0757

During this year this locomotive was in the shop two weeks for its yearly overhaul, which required the following man-hours of work:

	Man-hours
Diesel	194
Mechanical including wheels turned	265
Electrical	112½
Total man-hours	571½

The axles are of open-hearth forged steel finished for



The Truck Provides for Positive Equalization Regardless of Uneven Track Conditions. The Brake Rigging is Outside of the Side Frames and is Accessible for Adjustment or Replacement

truck and motor bearings, wheel and gear fits and the journals are 7 in. by 14 in. The rolled-steel wheels are 40 in. in diameter.

Cab and Fixtures

The operator's cab is of the single-end type with a removable hood covering the Diesel engine and generator. The fuel-oil tanks are of 400 gal. capacity and the cooling-water tanks have a capacity of 50 gal. Four sand boxes are provided and the sand is delivered to the rail by means of pneumatic sanders. Electric cab heaters are provided.

Operating Data

Locomotives of this type have been in switching service on several railroads for some time and two roads from which data have been secured indicate an average fuel oil consumption of 5.22 and 5.93 gal. per hour. These two locomotives on two different roads each spent less than two weeks in the shop for annual overhaul and, coincidentally, each required approximately 570 man-hours of labor to perform the work. The details of the operation and maintenance over a period of one year are shown in Tables II and III.

Railroad Retirement Board Answers Railroad Complaints

WASHINGTON, D. C.

THE Railroad Retirement Board has filed in the Supreme Court of the District of Columbia its answer to the bill of complaint filed by the railroads on August 13 attacking the constitutionality of the railroad retirement act and the case has been tentatively set for hearing on October 4 on the railroad request for an injunction. The answer of counsel for the board consists largely of denials of allegations made by the carriers, including the one that the act is experimentation at the expense of the plaintiffs, although it admits some of them. One of the admissions is that "all employees, as defined in the railroad retirement act, who are in carrier service subsequent to the enactment of the act and who shall leave such service at any age and with any service period, are entitled to annuities if and when they satisfy all the other requirements provided by the act for persons seeking annuities thereunder, regardless of how long such employees shall have been entirely out of carrier service at the time of the payment of the annuities," although the board points out that such annuities would be based on the time spent in carrier service. Following are extracts from the answer:

Defendants deny that in enacting the Railroad Retirement Act, Congress exceeded its powers under the commerce clause of the Constitution, that the provisions of the act have no reasonable relation to the promotion of efficiency or safety in interstate commerce, that the provisions of the act are unreasonable or arbitrary, or that the act applies to any employees who are not engaged in interstate commerce or in work so closely related thereto as to warrant regulation in order to promote efficiency or safety of interstate transportation. Defendants aver that grounds other than the promotion of efficiency and safety of interstate transportation also exist to support the exercise of the power of Congress under the commerce clause of the Constitution; and they further aver that all persons who are defined as employees in the act are engaged in work which is within the regulatory powers of Congress.

Defendants aver that the real ends and aims of the act are as stated therein, and are reasonable means of promoting efficiency and safety in interstate transportation, and are within the power delegated to Congress by the Constitution.

Defendants deny that the act interferes with management unlawfully, or otherwise, or that it unlawfully classifies or discriminates against plaintiffs, or that it prescribes any arbitrary or unreasonable requirements, or that it deprives the plaintiffs, or any of them, of their property or liberty of contract without due process of law, or takes their property without just compensation.

Defendants deny that there are any persons in the plaintiffs' employ who are employees, as defined in the Railroad Retirement Act, and who are not engaged in the interstate commerce conducted by plaintiffs or in work so closely connected therewith as to be within the regulatory powers of Congress under the commerce clause of the Constitution of the United States. The defendants aver that all of plaintiffs' employees who are employees as defined in the act are engaged in work which is within the regulatory power of Congress.

Defendants have no knowledge as to the number of plaintiffs' employees, if any, who within one year before the approval of the Railroad Retirement Act, left carrier service and have not returned to it. Defendants deny that such persons, if any there are, were not, at the time the act was approved, employees of any carrier or connected in any way with the business conducted by the carriers. Defendants admit that employees in the service of the plaintiffs within one year prior to the enactment of the act are entitled to annuities from the retirement fund, if and when they satisfy all other requirements provided in the act for those seeking annuities thereunder.

The defendants admit that all employees, as defined in the Railroad Retirement Act, who are in carrier service subsequent to the enactment of the act and who shall leave such service at any age and with any service period, are entitled to annuities if and when they satisfy all the other requirements provided by the act for persons seeking annuities thereunder, regardless of how long such employees shall have been entirely out of carrier service at the time of the payment of the annuities. But the defendants aver that the act does not require or authorize the use, in the determination of the amount of such annuities of time spent entirely out of carrier service; that, on the contrary, the act requires that such annuities shall be based only on the periods of time spent in carrier service, subject to the variation in the case of employee representatives provided in Section 7 of the act.

Defendants have no knowledge as to the number of plaintiffs' employees who are from time to time released from service because they are found to be detrimental to its efficiency or safety; but the defendants admit that such employees are eligible to receive annuities under the Railroad Retirement Act, based upon their periods of service, if and when they satisfy all the other requirements provided by the act for persons seeking annuities thereunder.

Defendants aver that the act, as interpreted in the foregoing paragraphs 1 to 5, inclusive, does not cover any subject beyond the powers of Congress under the commerce clause of the Constitution, and that the inclusion in the benefits of the act of the persons mentioned in the said paragraphs is a reasonable and proper exercise of power by Congress and is reasonably calculated to avoid hardship and unjust discrimination in the incidence of the retirement and pension system established by the act.

The defendants deny that the act fixes or varies the amounts of compensation to be paid to the plaintiffs' present or future employees, and deny that the act deprives the plaintiffs, or any of them, of their liberty of contract or of their property without due process of law. Defendants admit that the amount which the plaintiffs will be required to contribute to the Railroad Retirement Fund in the first year will be approximately $60,000,000. And they admit that, after four or five years, this amount may increase from time to time until a maximum level is reached.

Defendants are without knowledge as to whether any of plaintiffs' employees between the ages of 51 and 65 years who are eligible for retirement under the act are competent to continue in service. Defendants aver that the act does not in any way prohibit or prevent such employees from continuing in carrier service until they attain the age of 70 years. Defendants further aver that because of the reduction in the amount of the annuity payable to employees who have a service period of 30 years and who retire below the age of 65, as provided in Section 3 of the act, the number of employees who will elect to retire before the age of 65 will be small, and that the retirement of many of those who will so elect will be, by virtue of the reduction, profitable to the Railroad Retirement Fund and to the plaintiffs, in that the drain on the fund will be smaller than it would be if such employees retired at the age of 65.

Defendants admit that plaintiffs have a number of executives, officials and expert employees who possess special knowledge and qualifications as the result of many years of study and practical experience. The defendants deny that the enforced retirement of such employees under the conditions stated in Section 4 of the act does not promote efficiency or safety in interstate transportation, or deprives plaintiffs, or any of them, of their property without due process of law. Defendants aver that the compulsory retirement provisions of Section 4 are not applicable to plaintiffs' employees who occupy official positions until five years from the

effective date of the act, August 1, 1934; and the defendants further aver that under Section 4 of the act plaintiffs and their employees may in any event agree to extend the time for retirement for successive periods of one year until the employees reach the age of 70.

Defendants admit that the Railroad Retirement Act requires the pooling of the contributions of the plaintiffs to the Railroad Retirement Fund, and the aggregation of service on any carrier subject to the act for the purpose of determining the service periods by which employees' annuities are to be measured. Defendants deny that the business conducted by any of the plaintiffs is separate and distinct from that conducted by the others, or any of them.

Defendants deny that there is a significant variance among the several carriers in percentage of employees of the several age classifications, at least under the age of 70, or that there is a significant variance among the several carriers in respect to the past service periods of their respective employees. Defendants admit that the contributions of all carriers to the Railroad Retirement Fund will be pooled, and that annuities will be paid out of the fund to employees who had attained the age of 70 at the time of the approval of the act and to other employees without regard to the ratios of the contributions of the particular carriers in whose service the beneficiaries were prior to retirement. Defendants aver that the act requires each plaintiff to contribute to the fund only in proportion to the compensation paid to its own employees, and that the pooling of the contributions in the fund is reasonable and necessary and beneficial to the plaintiffs.

Defendants admit that there are approximately 1500 officers or other official representatives of railway labor unions duly designated and authorized to represent employees under the Railway Labor Act. Defendants deny that such officers or official representatives are not performing any service for the carriers. Defendants deny that the participation of such present officers and official representatives in the pension system places any substantial additional burden upon the plaintiffs.

Defendants deny that the inclusion in the basis for annuities of service rendered prior to the approval of the Railroad Retirement Act has no relation to future interstate commerce, or arbitrarily or unlawfully operates only on past services and events. Defendants deny that such prior services were at the time of the approval of the act closed or completed transactions, and defendants aver that a very large part, if not the whole, of the cost to the plaintiffs was incurred by them apart from and without the compulsion of the act. Defendants further aver that the prior service is only a measure of the amounts of the annuities provided by the act, and that it is a convenient, reasonable and necessary measure.

Defendants aver that the plaintiffs have not exhausted the practical possibilities of retrenchment in expenditures and economy consistent with safety. And defendants aver that the plaintiffs have manifested their own opinion that they have not exhausted the practical possibilities of increased operating revenue.

Transportation Legislative Program In Preparation

WASHINGTON, D. C.

"A legislative program is in preparation for consideration at the next session of Congress to put in effect recommendations of the Co-ordinator resulting from his exhaustive investigations," according to a report submitted to the President by Donald R. Richberg, executive secretary of the Executive Council, released for publication on September 10 summarizing the regulatory activities set in motion by the administration for "the improvement of public services."

Additional evidence of the attention being given by the President to the transportation problem is furnished by the fact that Co-ordinator Eastman spent several hours with him at Hyde Park on September 6, immediately following a visit to the President on the day before by J. J. Pelley, president of the New York, New Haven & Hartford, who has been prominently mentioned as likely to head the new organization—the American Railroad Institute—planned by the railroads as a reorganization of the Association of Railway Executives and the American Railway Association.

Mr. Pelley also had a long conference with Mr. Eastman on September 10. After his conference with the President last Thursday Mr. Eastman also spoke of a comprehensive program of transportation legislation as being under consideration, along the lines of his recommendations made in March of this year, which are to be supplemented in an early report covering his exhaustive study of transportation subsidies. Prof. A. A. Berle, who played an important part in the consideration of transportation legislation last year, was also a visitor at Hyde Park at about the same time.

Mr. Richberg, in his report, said that "in the elimination of railroad wastes the Co-ordinator reports that, because of the limitations placed on immediate accomplishment by the statutory prohibition of reductions of employment, his chief activity has been that of comprehensive research, aiming at the modernization of railroad operation, equipment, service, and rates." As counsel for the railroad labor organizations last year Mr. Richberg was the man who brought about the inclusion of the "statutory prohibition" in the law under which Mr. Eastman was appointed. His report added that "a completed report on merchandise traffic proposes radical changes in methods of handling, looking toward a saving of between $50,000,000 and $100,000,000, a year," but did not mention that the employment question was also a serious one in this connection.

It was also pointed out that "similar reports on carload and passenger traffic are nearly completed," and that "many other studies completed, or in process, cover such technical subjects as terminal unification, concentration of shops, standardization of equipment, materials and supplies, and pooling of various facilities." "These investigations already demonstrate," Mr. Richberg said, "that large and important savings can be made through better co-ordination and integration of the railroad industry," and reference was made to Mr. Eastman's report recommending a co-ordinated federal regulation of railroads and of motor and water carriers under the Interstate Commerce Commission. The report also called attention to other studies being made by Mr. Eastman and to the establishment of the Railroad Retirement Board under the new pension law.

Jesse H. Jones, chairman of the Reconstruction Finance Corporation, which is also giving close attention to the railroad financial situation, has stated that the corporation has money available and will consider any sound proposition to assist in reorganizing railroads.

Chairman Jones of the R.F.C. also discussed the railroad situation in an address at Babson Park, Mass., on September 13, saying:

"It will probably be necessary to continue lending to railroads. We cannot get along without the railroads, and until they can be brought to a better earning basis, some of them will need government assistance. The loans can be furnished with little, or no loss, and a good purpose served.

"All principal transportation service, railroads, trucks and busses, inland waterways, river traffic, etc., should probably be brought under a single regulatory control, with a view to the elimination of waste and unnecessary duplication of service.

"The public must be protected against excessive rates, both freight and passenger, but fewer trains and tracks, and probably fewer trucks, busses and barges could provide adequate service. I do not suggest government ownership of railroads, but effective regulation accompanied by financial assistance, where necessary and proper."

Odds and Ends . . .

Lonely Station

There is a railway station near Bisley in England that is used only one day a year, but then it handles several thousand passengers. It is built on the lonely moors adjoining the shooting grounds of the National Rifle Association and used only during the annual one-day shoot for the king's prize.

The Good Ship V. P. & G. M.

Named in honor of the vice-president and general manager of the Illinois Central, the good ship "William Atwill," recently sailed from Vicksburg, Miss., for a 10-day training cruise down the Mississippi river to Natchez, Miss. The crew consisted of 18 members of the Sea Scout troop of Vicksburg, an organization sponsored locally by the Illinois Central System Booster Club.

Steaks in Summer

The Pennsylvania reports one unlooked for angle to the air-conditioning of trains. Dining car stewards report a large increase in the number of full-course dinners ordered in the cool diners, instead of the customary summer slump to snacks and salads. With temperatures of 90 to 100 deg. outdoors, the passengers in the air-conditioned trains revert to their cool or cold weather eating habits.

High Hat Conductor

When the Presidential Special ran over the Chicago & North Western from Milwaukee to Chicago the other day, the conductor in charge was Tom O'Malley, with a service record of 47 years. On other days though, when he doffs his blue suit and brass buttons for a frock coat and top hat, Tom has to be addressed as the Hon. T. Brian Boru O'Malley, duly elected lieutenant-governor of the sovereign state of Wisconsin.

Indian Names

Under the above title, the Delaware, Lackawanna & Western has issued an attractive booklet giving the origins of the Indian names of no less than 36 towns along its line, beginning with "Manhattan," an Algonquin word meaning "town of the island." The name Lackawanna itself is of Lenape origin, and means "the meeting of the rivers." People who have seen the huge coal terminal of the D. L. & W. at Secaucus, N. J., will probably be surprised to learn that this name, in the Lenape dialect, means "place of terror."

Railroad Nicknames

The time-honored custom of nicknaming railroads according to their initials is receiving notice in a Chicago newspaper these days, the most recent listing being the Peoria, Pekin & Jacksonville as the "Push, Pull & Jerk," and the Toledo, Peoria & Western, as the "Tired, Poor & Weary." What has always appeared to us as the classic, however, is the Cincinnati, Portsmouth & Virginia (predecessor of the N. & N.) which was always known as the "Coat, Pants & Vest." We should welcome additions to this list.

Mrs. George Le Boutillier Dahlia

"Mrs. George Le Boutillier," is the name of a new dahlia of outstanding quality and color just registered with the American Dahlia Society. It will be introduced and exhibited by the Ruschmohr Dahlia Gardens of Rockville Centre, Long Island. Mrs. Le Boutillier is the wife of the vice-president of the Pennsylvania and Long Island railroads, also president of the New York Railroad Club. The new dahlia was raised from seed obtained in California by S. Wallace Smith, of Port Jervis, N. Y. It is a bright crimson red, shading to a rich Cardinal red at the centre, with full petal and deep flower. The average diameter of the new creation is 10 inches, although specimens have been grown up to 14 inches. The first public showing of the "Mrs. George Le Boutillier" red dahlia will be at the annual dahlia show in Rockville Centre, Long Island, September 15, under the auspices of the local board of education. On September 20 and 21 the new variety will be featured at the American Dahlia Society annual show in the Hotel Pennsylvania, New York City, where it will be entered for competition in the undisseminated seedling class. A third showing of the blooms will be at the Brooklyn Fall Flower Show, which opens September 25 and continues until the night of September 29.

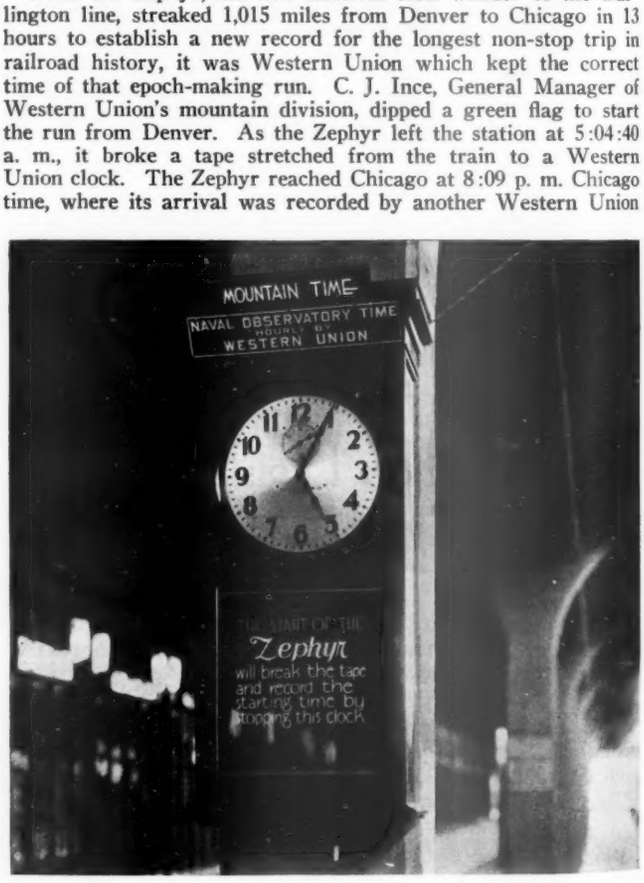
Park Builders

To George Owens, warehouse foreman for the Louisville & Nashville at Barbourville, Ky., goes the credit not only for having located the exact spot where the first house was built in Kentucky, but also having led the movement which made the spot and surrounding territory a state park.

As a park builder, he takes rank with George G. Whitcomb and Charles Hadley, train service employees for the Boston & Maine. For some time, these two men have been utilizing their layover at Peterboro, N. H., in clearing a stretch of waste land of underbrush, trimming trees and building benches and tables. The grateful citizens of Peterboro have named it Whitley park, taking a syllable from each of the names of its builders.

Timing the Zephyr

When the Zephyr, the new stainless steel wonder of the Burlington line, streaked 1,015 miles from Denver to Chicago in 13 hours to establish a new record for the longest non-stop trip in railroad history, it was Western Union which kept the correct time of that epoch-making run. C. J. Ince, General Manager of Western Union's mountain division, dipped a green flag to start the run from Denver. As the Zephyr left the station at 5:04:40 a. m., it broke a tape stretched from the train to a Western Union clock. The Zephyr reached Chicago at 8:09 p. m. Chicago time, where its arrival was recorded by another Western Union



Clock Recording the Zephyr's Starting Time in Denver Union Station

clock. On July 3, Western Union performed another feat of precision timing for the Zephyr during a speed test near Denver, when the train reached a speed of approximately 110 miles an hour. Western Union connected timing devices with the rails at 5-mile intervals. As the train entered and left each 5-mile stretch it interrupted the current in electrical circuits which had been set up from the track to four Western Union clocks in Denver.

NEWS

Consistency in Regulation Urged by H. I. Harriman

U. S. Commerce Chamber's President issues statement on national transportation policies

Henry I. Harriman, president of the Chamber of Commerce of the United States, has issued a statement on national transportation policies in part as follows:

"The stake of American business in the national transportation policies now under discussion is brought out by the pending application of the railroads for a $170,000,000 rate increase. Whether or not the increase is granted the American public will in either case pay a penalty largely due to shortcomings in the government's past treatment of the railroads. If granted, the public will pay directly in the increased rates. If refused, they will pay in further depression of this major industry, with decreases in earnings, employment and quality of service.

"The new rate application thus serve to emphasize how important it is, when public authority exercises regulating power over such business agencies, that the power be so exercised as to enable them to proceed consistently in meeting the public need without having to make emergency applications for rate increases.

"The Chamber of Commerce of the United States does not express opinions on the merits of rate cases pending before the Interstate Commerce Commission but it has had occasion in the past to put forward a number of proposals as to the regulatory policies essential to maintaining a healthy condition of railroad transportation. It seems timely, therefore, to point these out as emphasized by the pending rate application.

"In the first place the regulating authorities failed to carry out revenue features of the Transportation Act intended to improve the carriers' financial stability. To be sure, after investigation, they determined 5¾ per cent as a fair return but subsequently they so restricted rates that railroad earnings never attained that figure. Expressed in another way, the return to the railroads as a whole for the period from 1923 to 1929, when traffic volume was relatively high, was in the aggregate a billion dollars short of the amount which the Interstate Commerce Commission had determined as needed to maintain them on a sound financial basis.

"During the pre-depression years, with railroad earnings thus restricted, the attitude shown in reports and decisions of the commission seems to have been that no emergency existed in railroad affairs and that with further increases in traffic the authorized level of earnings would be attained. There appeared to be little recognition of the duty of the public authorities to anticipate the needs of the railroads and the shipping public under conditions of depression. Thus, when the emergency did arrive in 1930 and traffic fell off sharply, many of the carriers were ill prepared for that eventuality.

"In addition, the government during the past four years has repeatedly called on the railroads to disregard their own interest and the shippers' interest by making special contributions to the public welfare, notably the continuation of improvement work to assist in maintaining industrial activity and employment, the maintenance of wage rates much longer than in most industries and the reduction of rates for movement of emergency and relief supplies.

"In some ways and to some extent public responsibility has been recognized. Through the Reconstruction Finance Corporation loans have been granted to railroads, chiefly to help them meet maturities, but the amounts have been moderate, totalling less than two months' gross revenue of the railroads as a whole. The public through increased rates in effect during 1932 and 1933 was called upon for $75,000,000 a year to aid in meeting the railroads' emergency needs. The temporary 10 per cent wage cut, accepted by the employees in January, 1932, reduced operating expenses by about $100,000,000 a year. These measures made it possible for many carriers to meet obligations which otherwise they would have had to default.

"The volume of rail traffic, though somewhat lower in August than two months before, was nearly 20 per cent above the low point of the summer of 1932. This increase in traffic has brought substantially increased receipts but the receipts have been restricted by the discontinuance of the rate increases, while expenses have risen due to the giving back of a portion of the wage cut, necessary expenditures for deferred maintenance and increased costs of materials and supplies. In effect, the railroads ask for restoration of the rate increases and for nearly $100,000,000 a year more, or an estimated total of $170,000,000 additional earnings above the existing level based on the present traffic volume. Even this, the application holds, will fall short of meeting the carriers' financial needs and further improvement will depend upon increases in traffic. The possibilities in this direction may be seen in the fact that a further 20 per cent traffic increase, equal to that already attained, would only restore the volume whch prevailed in 1931 and would still be about

(*Continued on page 329*)

Eastman Asks Co-operation on Uniform Dockage Rates

Co-ordinator discusses subject in address before American Association of Port Authorities

Co-operation of port authorities in a plan for doing away with the common practice of railroads of offering free dockage service to overseas steamships was asked by Joseph B. Eastman, federal co-ordinator of transportation, in an address before the American Association of Port Authorities at New York on September 13. He said his traffic assistants have proposed that minimum dockage charges ranging from ½ cent to 2 cents per gross registered ton be levied against the steamship lines and that the port authorities, if they are disposed to co-operate, "can be of great influence in overcoming the most important objection which the railroads raise to a change in their present policy of extraordinary generosity to overseas steamships, namely the objection that other terminal operators may not fall in line."

Mr. Eastman said that as a result of competition it has become a practice of railroads to permit their port terminals to be used free of charge by steamship lines and that competition imposes the same practice on other terminal operators, although charges are assessed at some ports. He pointed out that one of the purposes of the emergency transportation act was to correct situations in which a concession offered by one railroad to obtain traffic has been followed by others with the result that a net loss is created for all.

"It is highly important, of course," he said, "especially with railroad earnings what they are, that all such situations as may exist be brought to light and corrected, so far as practicable. They flourish at the ports of the country, because there the competition of the railroads with each other and with other forms of transportation is aggravated by the very keen competition of the ports themselves. If there is any competition which is more rampant and vociferous than that in which the ports indulge, it has somehow escaped my attention.

"In no other country of the world, so far as I have been able to ascertain, are steamships given free use of terminals. On the contrary, they are obliged to pay substantial sums for their use. Generally speaking, the coastwise and inter-coastal lines in this country also pay, in one way or another, largely by owning or leasing their terminals, so that the benefits of the free use go mainly to the overseas lines. I have been unable to discover any sound

reason why they should be so favored, either at the expense of the railroads or at the expense of the taxpayers or independent private interests. It happens, also, that at the leading port of the country, New York harbor, they are not generally so favored, because there the steamship companies usually operate their own terminals and pay substantial rentals for them. The state docks at New Orleans and the terminals at Galveston assess substantial dockage charges; lesser charges are assessed at the Pacific Coast ports; and there are instances where some dockage is charged by publicly owned or private terminals at Atlantic and Gulf ports. The general railroad rule, however, is to grant free use.

"Not long after I began my duties as Federal Co-ordinator of Transportation, my traffic assistants took this matter up with the railroads, and it has been receiving consideration by the lines serving the Atlantic and Gulf ports. The consideration has proceeded with all due deliberation. At times, indeed, I have been inclined to regard the deliberation as undue, in view of the millions of possible revenue involved which the railroads sorely need. But, as is often the case, the railroad mind is beset on this subject with doubts, fears, complications and traditions, and it is because of some of these doubts and fears that I welcome the opportunity to discuss the matter frankly with you.

"It is, I understand, a subject that you have had under consideration for some years, but the obstacle which has stood in the way of doing anything about it has always been the custom and practice of the railroad-owned terminals. Now the opportunity is open to remove that obstacle. I believe that the railroads will agree to remove it, but if they do not agree, I have power under the Emergency Act to issue an order. The question for you to consider is whether, if this old obstacle can be removed, you and other independent terminal operators can and will agree to apply uniformly some such scale of dockage charges as my traffic assistants have suggested, and abide by that agreement. As I have indicated, millions of new revenue are involved, so far as the railroads are concerned, and by the same token new revenue will flow into your coffers.

"As I see it, there is an excellent opportunity in this matter of dockage charges to improve substantially the revenue situation, not only of the railroads, but of the governmental bodies and private interests which control water terminals. For that reason I am very hopeful that the subject will be approached in a cooperative spirit, and that the jealousies and rivalries which are at the root of the present wasteful treatment of this matter will be relegated to the background.

"The situation with respect to 'handling' and 'wharfage' charges at the port is equally unsatisfactory. Very large sums have been expended by governmental bodies, railroads, and private interests in constructing terminal facilities, while the total amount of traffic has fallen sharply. Naturally the competition has been intensified, and the tendency has been to cut and manipulate charges. My traffic assistants have spent much time on this situation, and they believe that it can be improved very materially, but they do not underestimate the complications. These are numerous and troublesome. Concrete and definite proposals will be forthcoming, but I am not prepared to announce all of them. I may say, however, that we have proposed to the railroads a scale of loading and unloading charges, where no joint rail-and-water rates are involved, to which the railroads have assented in principle and which would net many millions of additional revenue to them and also to other terminal operators. But again the assent is conditioned on the adoption of the same scale by all operators, and there are various details to be worked out.

"It is quite possible that an adequate solution of this problem will in some measure call for further legislation, and that it should be included in the legislation which I have recommended for the regulation of water carriers by the Interstate Commerce Commission. The proper co-ordination, through public regulation, of rail and water transportation is vital to the best interests of the carriers and the country, and the adequate regulation of terminals may well be a necessary part of that program."

Eastman to Address Bus Operators

Joseph B. Eastman, federal co-ordinator of transportation, is scheduled to address the annual meeting of the National Association of Motor Bus Operators at Cleveland, Ohio, on September 21.

Tour Business of U. P.-N. W. Much Improved

The escorted tour business operated by the Union Pacific and the Chicago & North Western from Chicago has increased 126 per cent thus far this season, as compared with the same period last year, the number of passengers carried up to August 25 totalling more than 2,000. The tour reservations for August 3 totalled 200 and it was necessary to run a special train. This was the largest single escorted tour movement since 1929.

A study of the tour traffic shows that the Y. R. G. tour, a 10 days', all-expense trip for $139.92 through Yellowstone, Salt Lake City, the Royal Gorge, Colorado Springs and Denver is the most popular. Next in preference is the R. M. tour, the 8-day, $84.26, all-expense trip through Denver, Colorado Springs, Estes Park and Rocky Mountain National Park, while the third in preference is the Y tour, the 8-day, $113.77, all-expense trip through Yellowstone and Salt Lake City. The increase in the patronage of the tours this season, as compared with a year ago, are as follows:

Tour	Number Days	Cost	Percentage Increase
Y. —Yellowstone, Salt Lake City	8	$113.77	53.4
Y.R.G. —Yellowstone, Salt Lake City, Royal Gorge, Colorado Springs, Denver	10	139.92	135.1
Y.Z. —Yellowstone, Zion, Salt Lake City	14	196.88	120.7
Z. —Zion, Grand Canyon, Bryce Canyon, Salt Lake City	10	145.01	25.7
Z.R.G. —Zion, Grand Canyon, Bryce Canyon, Salt Lake City, Royal Gorge, Colorado Springs, Denver	12	168.41	70.8
C. —San Diego, Agua Caliente, Los Angeles, Yosemite, San Francisco	15	210.91	58.3
P.N.W.—Portland, Tacoma, Rainier, Lake Louise, Banff	13	199.24	Not operated in 1933. Slightly over 1932.
R.M. —Denver, Colorado Springs, Estes, Rocky Mountain National Park	8	84.26	143.6

Southern Pacific Proposes New Steamship Service

The Southern Pacific has applied to the Interstate Commerce Commission for the necessary findings to authorize the operation by its Atlantic Steamship Lines between Norfolk, Va., and Galveston-Houston, Tex.

Trans-Missouri-Kansas Shippers' Board

The next meeting of the Trans-Missouri-Kansas Shippers' Advisory Board will be held on October 11 at Kansas City, Mo. Joseph B. Eastman, federal co-ordinator of transportation, will be the principal speaker. Car pooling and fourth section relief will also be discussed.

Two Million Visitors

A total of 2,121,000 persons have passed through the electric locomotive being exhibited by the Chicago, Milwaukee, St. Paul & Pacific in the Travel and Transport building at A Century of Progress during the period from its opening on May 27 to September 6.

Tomiyama Becomes Japanese Railways Representative at New York

Kiyonori Tomiyama has been appointed resident representative at New York for the Japanese Government Railways. Mr. Tomiyama, whose headquarters are at 551 Fifth avenue, succeeds Yoriwo Yamamoto, who is returning to Japan to assume new duties.

Embargo on River Shipments

Because of low water in the Mississippi river, the Inland Waterways Corporation, on August 31, placed an embargo on all shipments to and from points on the Mississippi north of the Illinois waterway. The embargo is for the remainder of the shipping season which usually ends on November 15.

Pennsylvania Tunnel at Baltimore Is Cut Through

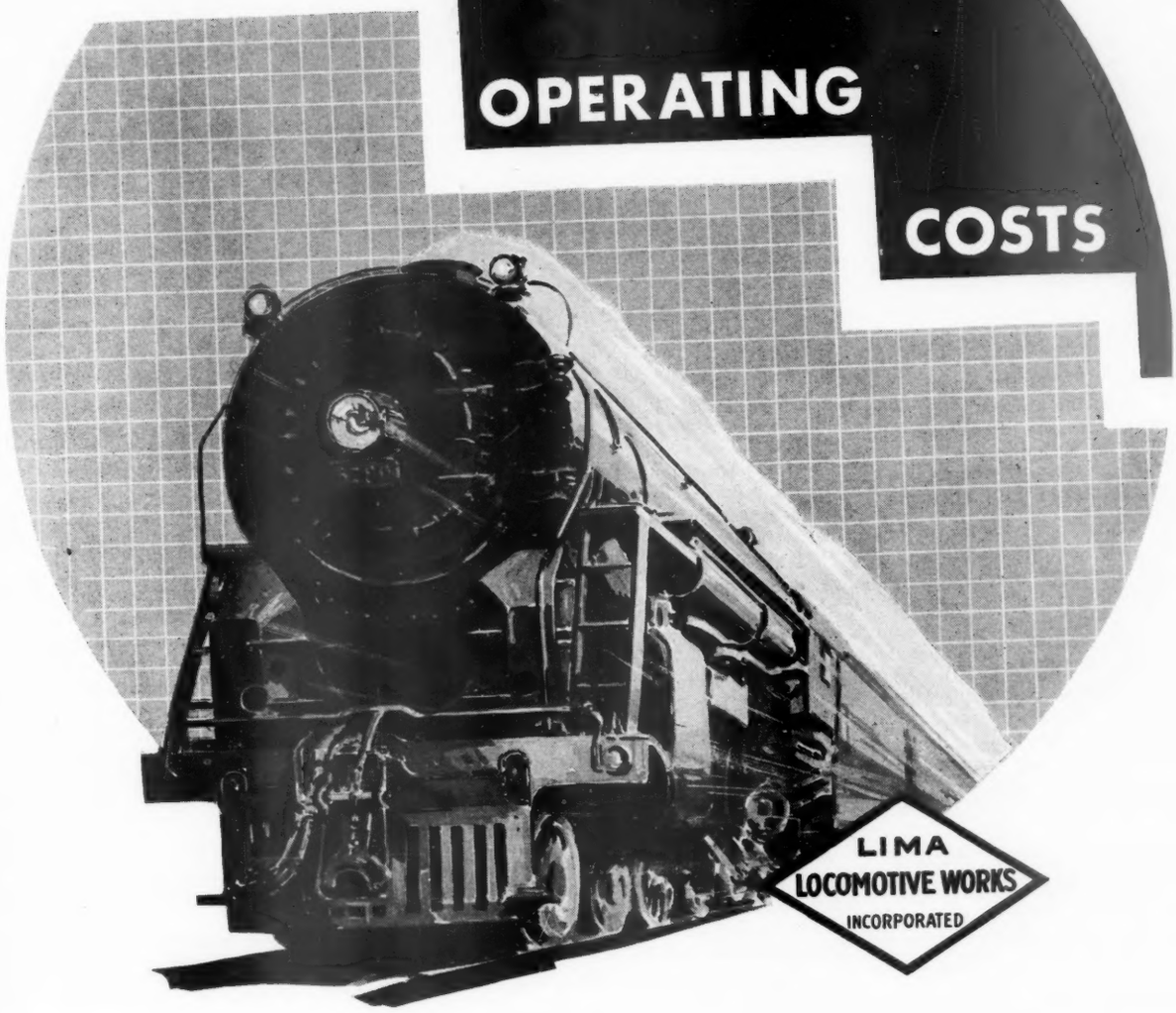
Noon of September 7 marked the final stage in the cutting through of the new double-track tunnel which the Pennsylvania is constructing in Baltimore, Md., alongside its present tunnel just east of Pennsylvania station. Among those present to view the cutting operation were J. V. Hogan and C. W. Block, president and chief engineer, respectively, of the Arundel Corporation, which is building the tunnel and James Forgie, its designer.

The tunnel, work on which was started July 15, 1933, is on the line of Hoffman street, extending from Greenmount avenue on the west to Broad street on the east, a distance of 3,400 ft. It is 35 ft. in

Continued on next left-hand page

SUPER-POWER LOCOMOTIVES

CUT OPERATING COSTS



● A study of actual operating data on one road showed that Super-Power Locomotives reduced operating costs 34%

Reduced Cost of Locomotive Repairs of 59%

Was An Important Element in This Operating Saving

THIS IS AN INDICATION OF THE REDUCTION IN REPAIR COSTS WHICH CAN BE EXPECTED WHEN THE MAINTENANCE PROBLEM IS DIRECTLY CONSIDERED IN LOCOMOTIVE DESIGN

diameter and when completed, about October 1, it will carry the main line tracks of the road which are now being electrified between Wilmington, Del., and Washington, D. C. When this latter project, which is being financed by the Public Works Administration, is completed, the entire main line between New York and Washington will be under electric operation for both freight and passenger service. Between 650 and 700 men have been employed on the tunnel construction.

Milwaukee Veterans' Reunion

About 2,000 persons are expected to attend the 1934 reunion of the Veteran Employees' Association of the Chicago, Milwaukee, St. Paul & Pacific at Chicago on September 20-21. Business meetings, sightseeing, a banquet and a visit to A Century of Progress comprise the program for the reunion. H. A. Scandrett, president of the road; J. T. Gillick, vice-president; H. H. Field, special counsel, and other officers will address the veterans.

Drought Rate Reductions Continued

Western Railroads, on September 12, following a conference with representatives of the Federal Farm Administration, decided to continue in effect the drought rates placed in effect on June 4 and withdrawn on September 4. The decision to continue the rates follows the action taken on August 28 when the railroads informed the administration that the rates would not be extended beyond September 4.

Railroad Assessments in California

The annual property assessment of railroads operating in California, due August 1, amounts to $205,846,698 for the last fiscal year. The largest single assessment was made against the Southern Pacific for $84,756,576. Other assessments include the Atchison, Topeka & Santa Fe, $38,139,840; the Central Pacific, $37,275,341; the Western Pacific, $11,078,720; the Pacific Electric, $10,099,833; the Los Angeles & Salt Lake, $6,659,584; the Northwestern Pacific, $4,968,960; and the Sacramento Northern, $2,177,250.

Revision of Lumber Rates Proposed

Carriers in official territory have petitioned the Interstate Commerce Commission to re-open all cases in which there are outstanding orders of the commission affecting rates on lumber in official territory and to consolidate them with related proceedings. It was stated that the carriers have had before them the subject of establishing a uniform basis of rates on lumber and forest products between points in official territory and are now preparing to publish a uniform basis of rates on such commodities.

Railway Employment Decreased in August

For the third consecutive month the number of employees of Class I railways showed a decrease in August as compared with the preceding month. Reports to the Interstate Commerce Commission show a total of 1,031,745 employees as of the middle of the month of August, a decrease of 1.55 per cent as compared with July, although an increase of 1.72 per cent as compared with August last year. With adjustment for seasonal variations this represents 56.2 per cent of the average for 1923-1925. In the maintenance of way and structures group, however, there was an increase of 5.81 per cent as compared with August, 1933.

Freight Damages Increase 2.1 Per Cent

Freight loss and damage payments during the first six months of 1934, increased 2.1 per cent, as compared with the same period in 1933, according to figures compiled by the Freight Claim division of the American Railway Association. There was, however, an increase of 15.4 per cent in freight carloadings. The total payments for the first half of 1934 amounted to $7,868,229, as compared with $7,707,230 during the first half of 1933, an increase of $160,999. During the first three months payments declined 7.4 per cent, but during the second three months, they increased 12.7 per cent. Loss and damage to fresh fruits, melons and vegetables showed a decrease of 15 per cent during the six-months period; $1,912,411 as compared with $2,251,121.

Shopcrafts Hold Annual Meeting

The annual convention of the Brotherhood of Railroad Shopcrafts of America, which came into existence on July 6, following a two-day meeting at Chicago called by the Allied Independent Railroad Labor Organizations of Western Lines, was held in that city on September 4-6. The organization, which is opposed to affiliation with the American Federation of Labor, elected the following officers: President, H. G. Kinney of the Southern Pacific, Sacramento, Cal.; vice-president, Walter Franklin, New York; national organizer, Theodore Davis of the Pennsylvania, New York; and secretary-treasurer, J. I. McConnel of Topeka, Kan. They chose St. Louis, Mo., as the place for the next convention.

Two Former Agents Here Promoted by Great Western of Britain

K. W. C. Grand and G. E. Orton, former G. W. R. general agents for the United States and Canada, are among a group of officers recently promoted by the Great Western of Great Britain. Mr. Grand, who has been promoted from commercial assistant to superintendent of the line to the position of general assistant to superintendent of the line, was assigned to this country from 1926 until 1929. Mr. Orton, who succeeded Mr. Grand as general agent here and served until January, 1932, has again succeeded Mr. Grand as commercial assistant to superintendent of the line. He had been publicity agent since July, 1933, and was the originator of the mystery excursion which was popularized by the Great Western and later adopted in other countries.

Major M. J. M. Dewar, trade advertising agent has succeeded Mr. Orton as publicity officer while H. A. G. Worth, junior assistant to divisional superintendent at Newport has become trade advertising agent. Another appointment was that of G. Matthews who has been promoted from assistant, office of superintendent of the line, to operating assistant to superintendent of the line. Mr. Matthews also spent some time in this country about 1910 when he made a study of operating practices on the Pennsylvania and New York Central.

Air-Conditioned Cars Improve Appetites

Thirty thousand passengers a day—a million a month—is the estimate made by the traffic department of the Pennsylvania of the number of people carried in that road's air-conditioned cars during the past summer; and the most notable item in the review of the season's traffic is that the people who patronized the dining cars demanded, not the usual hot-weather foods, so-called, but regular moderate-weather meals. The average amount of the meal checks was decidedly higher than in previous hot seasons. The stewards were obliged to hustle to provide the meats and pastries called for by the passengers' revised summer appetites. The number of full-course meals called for surprised them.

The air-conditioned trains, in the hottest weather, carried 20 per cent more passengers than last year. The Pennsylvania has 700 cars fitted for air conditioning, and the 166 trains in which these cars are used have this summer been run 50,000 miles a day.

Frank C. Ferguson Heads New York Port Authority

Frank C. Ferguson, vice-chairman of the Port of New York Authority since 1928, has been elected chairman to succeed the late George R. Dyer. He will be succeeded as vice-chairman by Commissioner Howard S. Cullman.

Chairman Ferguson, who has been a commissioner from New Jersey since 1924, is president of the Hudson County National Bank, Jersey City, N. J. Vice-chairman Cullman, a commissioner from New York since 1927, has been active as chairman of the Port Authority's terminals committee, in which capacity he conducted negotiations for the establishment of the Union Inland Freight Station which is located in the Port Authority Commerce Building at 111 Eighth avenue, New York.

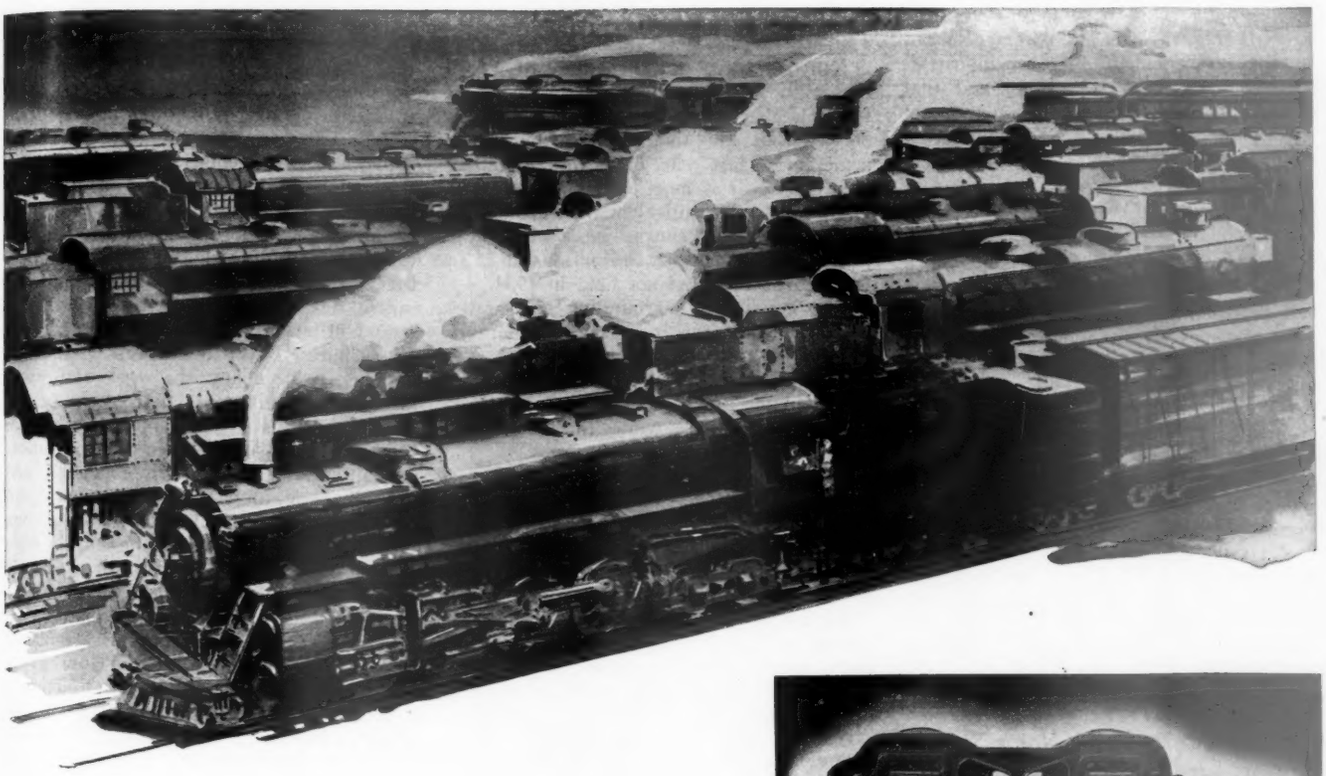
Protests Filed Against Rate Increases

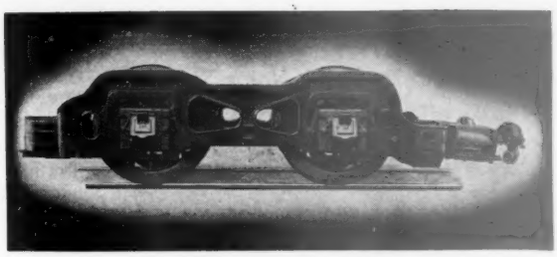
Comparatively few protests have thus far been received by the Interstate Commerce Commission against the increases in freight rates proposed by the railroads, on which hearings are to begin on October 1. The first to arrive was that of the National-American Wholesale Grocers' Association, which expressed the opinion that decreases in rates rather than increases would help the carriers.

The National Lumber Manufacturers' Association has issued a statement indicating that it was moving energetically to combat the efforts of the railroads and a meeting of the counsel and traffic experts of the regional lumber manufacturers' associations has been called for September 17 in Washington to decide on the precise position of the industry and the method of opposition. The association pointed out that while it is true that the average receipts per ton-mile are 9.6 per cent less

Continued on next left-hand page

The Depression Proved the BOOSTER





With thousands of locomotives stored during the past several years, Booster equipped power was invariably retained in active service.

This recognition of the added capacity and economy of operation of modern power, Booster equipped, emphasizes the importance of replacing obsolete locomotives that are expensive to operate, and expensive to maintain.

No locomotive device is better than the replacement part used for maintenance. Genuine Franklin repair parts assure accuracy of fit and reliability of performance.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

than in 1926 the rates on lumber have not been reduced and declared that the reductions made are almost entirely due to changes in tariffs made from time to time to meet motor truck or water competition. As the average lumber haul is said to be about 800 miles it was emphasized that these short-haul reductions have had little or no effect on lumber. Wilson Compton, general manager of the association, said that his industry is in sympathy with the plight of the railroads but that it does not warrant encroachment on other industries themselves operating at a loss, and that "it is due to burdens placed upon the carriers by public policies and economic developments."

The C.P.R. in July

The Canadian Pacific in July had net operating revenues of $1,511,481 which compares with $1,368,380 in July of last year, representing an increase of $143,101. Gross revenues for the month totaled $10,716,853, showing an increase of $574,426, while operating expenses were $9,205,371 showing an increase of $431,324. Gross for the month was the highest for any month since October of last year.

For the seven months net operating revenues of the road have totaled to $9,565,894, which contrasts with $6,229,521 in the corresponding period of last year, an increase of $3,336,373. Gross for the seven-month period at $67,927,533 showed an increase of $7,061,611, while operating expenses at $58,361,639 showed an increase of $3,725,238 over those for the same period of 1933.

Barge Employee Strike Not a Strike

A strike of employees of the Mississippi Valley Barge Lines, which started on August 10, as reported in the *Railway Age* of August 25, has died a natural death due to the failure of agitators to enlist and retain sympathizers. Twenty-eight negro laborers were induced to quit work but 20 of that number were not entirely in sympathy with the move and returned to work in a few days. According to officers of the barge line, no formal demands were submitted to the company but the laborers said that they had demanded an increase in pay of from 35 to 40 cents an hour. Those who returned to work accepted the old scale of pay. The agitators were endeavoring to force longshoremen to join the Marine Workers' Industrial Union. Officers of the barge line never regarded the walkout as a legitimate strike and the operations of the barge line were not affected by the incident.

Average Freight Load Increasing

Despite a reduction, due to business conditions, in the amount of freight traffic handled by the railroads, the average load per car of car-load freight has been gradually increasing, according to tabulations just completed by the Car Service Division of the American Railway Association. For all carload traffic, which includes agricultural products, minerals, livestock and forest products, as well as manufactures and miscellaneous freight, the average load per car was 35½ tons in 1933. This was three-fifths of a ton greater than in 1932 and one-fifth of a ton greater than in 1931. With the exception of 1930 when it was 35⁷⁄₁₀ tons, the average for 1933 was greater than for any year since 1922 when these reports were first compiled and for which year the average was 33⅓ tons. The effect of this increase in the average load per car is that the railroads are getting greater utilization out of their equipment than formerly.

Century of Progress Railway Travel

Railroad travel to A Century of Progress Exposition at Chicago from May 27 to September 10 is estimated to have been 30 per cent less than it was during the same period last year. However, the movement this year is more uniform and is believed to be the equivalent of what it was last year without the business which was incident to numerous conventions held in Chicago in 1933 and not held in 1934.

The conditions surrounding the movement of traffic this year are considerably different from those which prevailed a year ago. Eastern lines last year secured a large volume of business from New York and eastern states, while this year that traffic has been less.

This year, so far, the Pennsylvania has carried 112,500 persons into Chicago on week-ends, the number being only three per cent less than last year. Its total business for the season has been slightly under that of last year.

The New York Central since May 27 has carried about 370,000 persons into Chicago, most of whom came from points west of Buffalo. This is about 10 per cent under last year.

Another factor is the absence of the half cent a mile rates from the South and Southeast. Last year considerable business moved while these rates were in effect.

Traffic from the western states has shown a considerable decrease this year. This is because of the drought which curtailed travel from rural districts.

One of the interesting disclosures in connection with the large movements this year is the fact that people prefer to travel in an upper or two in a lower berth in an air-conditioned car than in a lower berth in a non-air-conditioned car. As a result of this situation, the Pennsylvania was able to load its air-conditioned cars to capacity; and over the Labor Day week-end it had to operate only 57 extra trains to carry its passengers into and out of Chicago, while a year ago it had to run 110.

Chicago Barge Traffic Increases

An increase in the traffic of the Federal Barge Lines in and out of Chicago during the second season of operation on the Lakes-to-Gulf waterway is reported by the Inland Waterways Corporation. During March, April, May, June and July, 1932, the first five months of operation, 31,507 tons were moved in and out of Chicago. During the same months of 1933, the amount increased to 74,084 tons, and in the same period of 1934 to 141,211 tons. During June and July, this year, the in and outbound tonnage totaled 42,935 tons, while during the same months of the previous year it totaled only 8,286 tons. The increase is particularly notable in the northbound business. In these two months 38,061 tons moved into Chicago as compared with 5,187 tons in 1932. The increased business is attributed to the movement of such commodities as coffee, sugar, sisal, sulphur and canned goods, as well as bulk grain moving for domestic, coastwise and intercoastal destinations.

Western Railway Club Outing Well Attended

The first annual outing of the Western Railway Club, held on September 10, at the Olympia Fields Country Club, Chicago, was a notable success, the total registration being over 450, of which approximately 150 were railroad officers and 300 supply men. Members and guests attended this outing from points as divergent and far distant as the Twin Cities, Min., Omaha, Neb., St. Louis, Mo., Washington, D. C., and Rochester, N. Y. Under the general direction of the Outing Committee, headed by Chairman Harry P. Allstrand, Chicago & North Western, and Vice-chairman W. S. Morris, American Locomotive Company, the work of preparing for the outing was thoroughly organized, all details being handled by special committees assigned to transportation, prizes, entertainment, golf, reception and publicity. A total of 385 members and guests played golf on three of the four golf courses available at the club. Following the dinner and program of music and entertainment provided by members of the club, 17 golf prizes were distributed. Edward Collins, Ajax Hand Brake Company, won first prize, with a low gross of 80 on the No. 1 course. C. T. Ripley, Atchison, Topeka & Santa Fe, had low gross on the No. 2 course and J. A. King, Cardwell - Westinghouse Company, low gross on the No. 3 course.

American Railroad Institute Planned

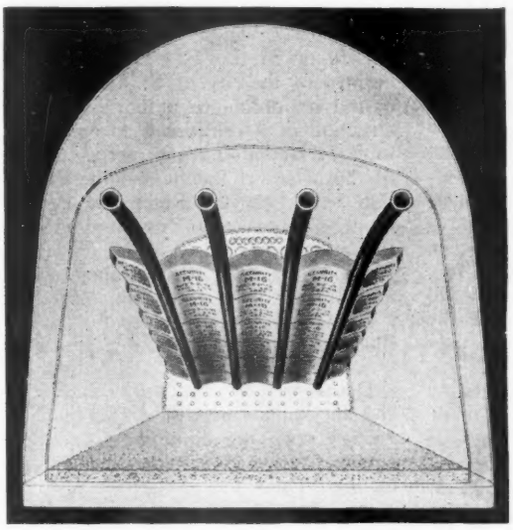
A meeting of the member roads of the Association of Railway Executives and the American Railway Association is expected to be called to be held in Chicago in the near future for final approval of the plan which has been tentatively approved by the Advisory Committee of the A.R.E., for the formation of a new organization to be called the American Railroad Institute, as a reorganization of the A.R.E. and the A.R.A. The new organization would also include some other railroad organizations now more or less independent such as the Railway Accounting Officers' Association, the Bureau of Railway Economics and others.

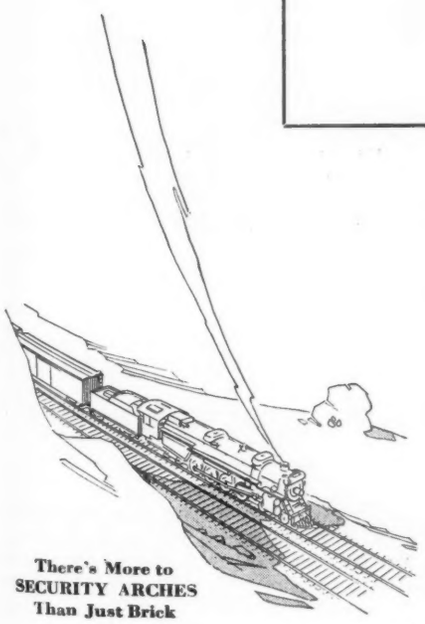
The purpose is to obtain an organization through which more effective united action by the railroads can be accomplished and which will be an authoritative spokesman for the roads. It would be headed by a president who would live and have his office in Washington and would also have offices in New York and Chicago. J. J. Pelley, president of the New York, New Haven & Hartford, is understood to have been actively under consideration for the office of president.

The proposed organization includes a small executive committee, representative of the railroads in the three regions, East, West and South, a larger board of directors, and departmental sub-divisions each under the direction of a vice-president, in-

Continued on next left-hand page

OVER 50% OF ALL ARCH BRICK SHAPES IS COVERED BY 6 STANDARD PATTERNS





There's More to SECURITY ARCHES Than Just Brick

Initial standardization of the Sectional Arch was the work of the American Arch Company.

Yet this standardization while simplifying the work of the storekeeper, was maintained without sacrificing progress.

Security Arch Brick are constantly improved, both in design and material, while maintaining an interchangeability with previous designs.

Special shapes are used only when there are unusual conditions.

Today a quarter of a century after Sectional Arch Brick was introduced by the American Arch Company, Security brick shapes are the up-to-date standard in the Railroad World.

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists

NRA MEMBER U.S. WE DO OUR PART

AMERICAN ARCH CO.
INCORPORATED

Locomotive Combustion Specialists » » »

cluding several of the officers of the present associations.

One of the purposes is to have an organization with more authority to represent the railroads in their common activities with more authority than has ever heretofore been given to any railroad association and to this end it is understood that the plan provides for a system by which instances in which individual carriers decline to follow a course adopted by the organization will be referred to an arbitration, within a limited time, the decision of the arbitrators to be final.

New York-Chicago Trains Faster

Expedited services between New York and Chicago including a new 19-hour train from Chicago to New York on the Pennsylvania and another on the New York Central which will be accelerated to make the same run in 19 hrs. 10 min., will be inaugurated with the new fall time table effective September 30. In addition to the foregoing other trains on this route will be speeded up.

The 19-hour Pennsylvania train will leave Chicago at 11:50 p.m. Among other changes on this road will be the reduced running time of its Progress Limited which will leave New York at 10:35 p.m. and make the trip to Chicago in one hour less than at present; the Pennsylvania Limited, leaving New York at 1:35 p.m. will make the run to Chicago in 19¾ hrs. while the Gotham Limited leaving Chicago at 10 p.m. will be scheduled to make the run to New York in 55 min. less than heretofore.

On the New York Central the 19 hrs. 10 min. Chicago-New York run will be made by the Forest City, leaving Chicago at 11:40 p.m. This train will make the run between Buffalo and New York in 8½ hrs. This road's Fifth Avenue Special and its Wolverine will also be expedited and its Exposition Flyer, which will become the North Shore Limited, will be run through in 19½ hrs. westbound.

Consistency in Regulation Urged by H. I. Harriman

(*Continued from page 325*)

25 per cent below what is generally regarded as normal.

"To sum up, the unsatisfactory financial condition of the railroads since the war and particularly during the depression emphasizes the need for a more consistent permanent policy of railroad regulation such as that advocated by the Chamber which may be stated as follows:

The railroads should be freed from government interference with the proper functions of management, including responsibility for operating costs.

The Interstate Commerce Commission should give them opportunity to earn cost of service plus a reasonable return such that in time of business activity they will be able to reduce indebtedness and build up adequate reserves.

Rate policies, including the long and short haul clause, should permit greater flexibility in rates to meet requirements of both shippers and carriers.

Competing forms of transportation should be reasonably regulated to eliminate cutthroat competition and to enable each type of transportation to perform the services for which it is best fitted.

Voluntary consolidation subject to Commission approval, delayed many years by failure of the Commission to take preliminary steps required by law, should be encouraged where justified through economic efficiency.

"Under such policies of public regulation the railroads should, with a return to normal conditions of general business activity, soon be able to reestablish themselves on a sound financial basis."

Construction

ATCHISON, TOPEKA & SANTA FE.—A contract has been awarded to Myers Brothers, Los Angeles, Cal., for the reconstruction of Bright Angel lodge on the rim of the Grand Canyon at Grand Canyon, Ariz. The lodge is to be enlarged and modernized to provide for the increased comfort and convenience of visitors.

CITY OF ST. LOUIS.—The Board of Aldermen of the city of St. Louis, Mo., has passed an ordinance authorizing the construction of a reinforced concrete viaduct to carry Hampton avenue across the tracks of the Missouri Pacific and the St. Louis-San Francisco, the River des Peres and Manchester avenue. Present plans call for the constructon of a bridge 60 ft. wide and 1,200 ft. long to cost about $410,000, of which $105,000 will be supplied through a grant from the PWA and the balance of $305,000 from the proceeds of a bond issue.

DELAWARE & HUDSON.—Specifications and an estimate of cost of $79,080 in connection with the elimination of the Esperance station crossing of this road in the town of Duanesburg, Schenectady county, N. Y., have been approved by the New York Public Service Commission. The railroad has authorized to do certain work without contract in connection with the elimination for an amount not to exceed $18,080. The commission also approved specifications and an estimate of cost of $250,000, exclusive of land and property damages, in connection with the elimination of the Bridge street crossing of this road on the Windsor-Deposit state highway in the village of Windsor, Broome county, N. Y. The railroad was authorized to do certain work without contract in connection with the elimination for an amount not to exceed $87,436. The commission also approved the purchase of land and easements rights in connection with this elimination at an estimated cost of $33,265.

ERIE.—This road has been authorized by the New York Public Service Commission to do certain work in connection with the elimination of grade crossings in Elmira, N. Y., by direct employment of labor and purchase of materials at an estimated cost of $394,500. The work includes the furnishing of temporary and permanent track materials and changes in signals, telephone, telegraph and interlocking equipment. In addition the road is permitted to spend without contract $173,500 to construct and remove detour tracks and construct temporary trestles at Pennsylvania avenue, east of Chemung river, Water street (low level) Water street (high level), west of Second street and to remove crossing facilities.

ERIE.—The reconstruction of the overhead bridge to carry the Olean-Hinsdale state highway over the tracks of this road in the Town of Olean, Cattaraugus county, N. Y., has been ordered by the New York Public Service Commission. A new overcrossing 4151 ft. long will be constructed about 780 ft. north of the present crossing, at an estimated cost of $150,000. The new structure will have a roadway 40 ft. wide and a clearance of 22 ft. over the rails. The railroad is to furnish and erect the entire superstructure over the tracks.

LEHIGH VALLEY.—The New York Public Service Commission has approved as not excessive a bid of $19,947 submitted by Arani & Gessler, Syracuse, N. Y., for the elimination of the Taughannock boulevard crossing of this road in Ithaca, N. Y. See item in *Railway Age* of March 10, page 360.

NEW YORK CENTRAL.—Plans and specifications and an estimate of cost of $292,700 for the elimination of the Schuyler street crossing of this road in Utica, N. Y., have been approved by the New York Public Service Commission. The railroad was authorized to do certain work in connection with the elimination at an estimated cost of $14,665. The commission also approved revised detailed plans for proposed construction work between Thompson road and Syracuse Junction, N. Y. In addition a plan covering a track connection in Canal street west of Catherine street and an estimate of additional cost of $27,500 in connection with the elimination of crossings in Syracuse, N. Y., was also approved.

NEW YORK, ONTARIO & WESTERN.—A low bid of $71,769 submitted by Harold H. Smith, Inc., Middletown, N. Y., for the elimination of the crossings of this road located 400 ft. north and 740 ft. north, respectively, of Parksville station in the Town of Liberty, Sullivan county, N. Y., has been approved by the New York Public Service Commission and the railroad has been directed to award the necessary contract and to begin the work as soon as practicable.

Supply Trade

The Chicago Pneumatic Tool Company's Birmingham, Ala., office has been moved from 1829 South Second avenue to 211 South Twentieth street. **W. S. Lynch** is manager of the Birmingham district office.

OBITUARY

Andrew C. Woods, Chicago representative of the Union Spring & Manufacturing Company, Pittsburgh, Pa., died on August 24.

Continued on next left-hand page

More Than 20,000 Applied

Last year many American railroad men had an opportunity to inspect the "Royal Scot" on its tour through this country. This locomotive, an excellent example of a British high-speed, express type locomotive, is representative of modern British locomotives equipped with the Elesco type of exhaust steam injector, as manufactured in England by Davies and Metcalfe Ltd.

ON various railroads throughout the world more than 20,000 exhaust steam injectors of the Elesco type are in service. The largest part of these applications has been made on foreign railroads, which, confronted with the necessity for reducing fuel costs, have long since recognized that feeding a boiler with an injector operated by exhaust steam is a practical means for obtaining high economy in locomotive operation.

The Elesco exhaust steam injector embodies the same principles of design as used in other countries, but has a simplified control especially developed to meet the requirements of American railroad practice. It uses exhaust steam—which otherwise would be wasted—to preheat the feed water and inject it into the boiler. When exhaust steam is not available the injector changes over automatically to live-steam operation; then back again as soon as exhaust steam becomes available. While the Elesco exhaust steam injector functions equally well both with exhaust steam and with live steam, it *always* operates with exhaust steam when available, thereby giving substantial economies.

These increased economies, obtainable at low cost of installation, operation, and maintenance, make the Elesco exhaust steam injector an attractive boiler feed for new and existing power.

THE SUPERHEATER COMPANY

Representative of AMERICAN THROTTLE COMPANY, Inc.

60 East 42nd Street
NEW YORK

ELESCO

A-915

Peoples Gas Building
CHICAGO

Canada: The Superheater Company, Limited, Montreal

Superheaters - Feed Water Heaters - Exhaust Steam Injectors - Superheated Steam Pyrometers - American Throttles

Equipment and Supplies

P. W. A. Loans

The additional $3,000,000 allotment to the Lehigh Valley, announced on September 10 by Public Works Administrator Harold L. Ickes, will be used for the equipment listed under "Freight Cars" elsewhere in these columns.

This is the third P. W. A. loan to the Lehigh Valley. The first, of $2,000,000, was made last winter for repairing and rebuilding 2,000 freight cars. The second, of $600,000, was to enable the company to purchase 5 new locomotives, which are being manufactured by the Baldwin Locomotive Works.

Administrator Ickes also announced that he has signed a contract for a loan of $32,500 to the Missouri Southern, the money to be used to purchase a new Diesel-electric locomotive which is being built by the Plymouth Locomotive Works. The allotment for this loan was made some time ago. The total of railroad loans thus far placed under contract is $188,181,500.

Two previously awarded railroad loan allotments have been rescinded. One of $3,500,000 to the Escanaba, Iron Mountain & Western for construction of a concrete ore dock at Escanaba, Mich., was rescinded because the company has decided to repair two existing docks and continue to use them instead of building the new one. The other rescinded allotment was for a loan of $75,000 to the Fort Smith & Western for repairs to roadway and equipment. This allotment also was rescinded at the request of the company.

Chinese Railways Want Second-Hand Equipment

Secretary Roper of the Department of Commerce has made public a letter from James Harvey Rogers, who has been in China for some time making studies for the United States government in connection with the monetary situation, stating that he had been asked by Chinese railway officials to call attention in this country to the great demand in China for second-hand railroad equipment. Such equipment is desired on a credit basis, to be paid for out of earnings, but there has been a suggestion of a possibility of financing it through the Export and Import Bank.

LOCOMOTIVES

THE PENNSYLVANIA is now asking for bids on 50 or 60 additional electric locomotives to handle trains on the New York-Washington electrified trackage.

FREIGHT CARS

THE GRAY CHEMICAL COMPANY, Roulette, Pa., has ordered two aluminum tank cars of 8,000 gal. capacity from the General American Transportation Corporation.

THE LEHIGH VALLEY has been allotted by the P. W. A. an additional loan of $3,000,000 to use for rebuilding 1,500 box cars and buying 300 fifty-foot gondola cars of 70 tons' capacity and 100 sixty-five-foot gondola cars of 70 tons' capacity, also three new Diesel-electric locomotives.

THE BETHLEHEM STEEL COMPANY has ordered from the Magor Car Corporation eight air dump cars of 70 tons' capacity for service in Chile.

THE BALTIMORE & OHIO program to cost $4,279,244, which included the reconditioning of 240 locomotives, making heavy repairs to 4,800 freight cars and reconstructing 200 automobile cars, has been modified and now calls for repairs to 100 additional locomotives at an estimated cost of $4,500 each and repairs to approximately 7,000 freight cars at an estimated cost of $150 a car. Work has already been completed on the 240 locomotives at a cost of $1,077,863, 200 automobile cars at a cost of $128,145 and 732 of the 4,800 freight cars at a cost of $309,603, a total cost, advanced by the Government, of $1,515,611, leaving a balance of $1,484,389 to be advanced on account of the repairs to 4,068 freight cars. The Baltimore & Ohio now proposes to use the unexpended balance allotted for repairs to the 4,800 freight cars in repairing an additional 100 locomotives and approximately 7,000 freight cars. The proposed changes have been accepted by the Federal Emergency Administrator of Public Works and have been approved by the Interstate Commerce Commission.

IRON AND STEEL

THE WABASH is inquiring for 1,000 tons of structural steel for a bridge at St. Louis, Mo.

THE CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC has placed an order with the McClintic-Marshall Corporation for 560 tons of structural steel for two bridges at Weston, Iowa, and two at Chautauqua.

THE UNION PACIFIC has placed an order with the McClintic-Marshall Corporation for 640 tons of structural steel and another with the Omaha Steel Works for 600 tons of structural steel for a bridge at Omaha, Neb.

SIGNALING

THE CITY OF NEWARK, N. J., has contracted with the Union Switch & Signal Construction Company for the complete installation of automatic block signaling and interlocking for the new city subway. This line, now under construction, begins at the new Pennsylvania station in Newark and extends by subway through the central business district, continuing in an open cut to surface lines at the suburban limits of the city; approximately four and one-half miles, double track. The cars are of the usual surface electric traction type. Five of the principal surface lines which now serve the north and northeasterly sections of the city converge into this new double track road, and there will result a saving of from ten to fifteen minutes in running time from the outskirts of the city to the central business section. Three electro-pneumatic interlockings governing movements at junction points are included in the order, with 90 automatic block signals, color-light.

Financial

CHICAGO & NORTHWESTERN.—*R. F. C. Loans.*—This company has applied for a renewal for two years of the balance of its note to the Reconstruction Finance Corporation for $5,000,000 which matures October 13, on which $434,000 has been paid, and for three years of notes maturing later this year for $4,619,891, $1,565,465, and $1,275,994, a total of $12,027,350.

CHICAGO GREAT WESTERN.—*Pledge of Collateral.*—The Interstate Commerce Commission has authorized this road to pledge and repledge $4,233,000 of its first mortgage 50-year 4 per cent gold bonds with the Railroad Credit Corporation as collateral security for the renewal of its notes held by the R. C. C.

GULF, MOBILE & NORTHERN.—*Notes.*—This road has been granted authority by the Interstate Commerce Commission to issue not exceeding $107,275 of secured promissory notes to be delivered to the Chicago, Burlington & Quincy in payment for second-hand rail purchased by the applicant for the rehabilitation of the New Orleans-Great Northern, of which it is lessor.

HARDWICK & WOODBURY.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon its line from Hardwick to Woodbury, Vt., 9 miles.

LOUISIANA SOUTHERN.—*Stock.*—This company has been authorized by the Interstate Commerce Commission to issue 10,000 shares of capital stock of the par value of $10 a share in exchange for a like number of shares of $100 par value, thereby reducing the total amount of its capital stock outstanding from $1,000,000 to $100,000.

MISSOURI PACIFIC.—*Unification Application Dismissed.*—At the request of the applicant the Interstate Commerce Commission has dismissed without prejudice the company's application for authority to effect a unification of its subsidiary companies.

MOREHEAD & NORTH FORK.—*Acquisition.*—The Morehead & North Fork Railway has applied to the Interstate Commerce Commission for authority to acquire and operate a line of 4 miles in Rowan county, Ky., formerly operated by the Morehead & North Fork Railroad.

NEW YORK CENTRAL.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon a portion of a branch line extending from Beach Ridge, N. Y., to Lockport Junction, 6 miles.

PENNSYLVANIA-READING SEASHORE LINES.—*Acquisition.*—This company has applied to the Interstate Commerce Commission for authority to acquire and operate the property of the Wildwood & Delaware Bay Short Line, 4 miles.

SEABOARD AIR LINE.—*Equipment Trust.*—The receivers have applied to the Interstate Commerce Commission for authority

Continued on next left-hand page

RAILROAD DIESELS FOR RAILROAD MEN

Actual operating data for one year's operation for two different Alco 600 H. P. Diesel Locomotives on two different railroads

	Loco. #1	Loco. #2
Hours operated	8082	7609
Fuel oil, gals.	47893	39750
Lub. oil, gals.	611	529
Cost of yearly overhaul in Man Hours		
Diesel	194 hrs.	257½ hrs.
Mechanical including wheels turned	265 "	249⅔ "
Electrical	112½ "	61 "
Total Man Hours	571½ "	568⅙ "

Work done in two different shops, requiring no more facilities than are on any railroad at the present time.

This advertisement (No. 11 of a series) presents another of the many factors which, all combined, make the Alco Diesel an outstanding purchase.

AMERICAN LOCOMOTIVE COMPANY

ALCO DIESEL

30 CHURCH STREET · NEW YORK · N.Y.

to assume obligation and liability in respect of $2,120,000 of 4½ per cent receivers' equipment trust certificates.

WESTERN MARYLAND. — *Bonds.* — This company has applied to the Interstate Commerce Commission for authority to pledge $5,000,000 of first and refunding mortgage bonds as security for short term notes.

WHITE RIVER. — *Abandonment.* — This company has applied to the Interstate Commerce Commission for authority to abandon its entire line from Rochester, Vt., to Bethel, 19.34 miles.

Dividends Declared

Pittsburgh, Bessemer & Lake Erie.—6 Per Cent Preferred, $1.50, semi-annually, payable December 1 to holders of record November 15.

Average Prices of Stocks and of Bonds

	Sept. 11	Last week	Last year
Average price of 20 representative railway stocks..	33.95	35.48	47.58
Average price of 20 representative railway bonds..	71.72	73.33	71.51

Railway Officers

EXECUTIVE

D. C. Coleman, vice-president of the western lines of the Canadian Pacific, with headquarters at Winnipeg, Man., has been elected vice-president of the system, with headquarters at Montreal, Que., succeeding **Grant Hall,** deceased. **William M. Neal,** general manager of the western lines, has been elected vice-president, with headquarters as before at Winnipeg, to replace Mr. Coleman. **H. J. Humphrey,** general manager of the eastern lines, with headquarters at Montreal, has been elected also vice-president of these lines.

Mr. Coleman was born at Carleton Place, Ont., on July 9, 1879, and entered the service of the Canadian Pacific as clerk,

D. C. Coleman

serving in this capacity in Fort William, Ont., Winnipeg, Man., and Cranbrook, Ont., until 1901. From that year until 1907 he served as chief clerk at various points. Mr. Coleman served successively from 1907 until 1918 as superintendent at Nelson, B. C., superintendent car service of the western lines at Winnipeg, general superintendent at Winnipeg, general superintendent at Calgary, Alta., assistant general manager of western lines at Winnipeg, and general manager of the same lines. In October, 1918, Mr. Coleman became vice-president of the western lines at Winnipeg.

With the exception of about 2½ years during the World War, Mr. Neal has been connected with the Canadian Pacific continuously for 32 years. He was born on June 20, 1886, at Toronto, Ont., and entered railway service with the Canadian Pacific in 1902, serving as a stenographer, clerk and secretary until 1908, when he was appointed chief clerk to the superintendent of the Souris division. Later in the same year he was appointed assistant chief clerk to the general superintendent of the Manitoba district, and from 1910 to 1916 he served as chief clerk in the car service department, first at Winnipeg and then at Montreal. In the latter year he was appointed car service agent of the Quebec district at Montreal, and later in

W. M. Neal

the same year he was appointed acting superintendent of car service of the eastern lines. Next Mr. Neal was made assistant superintendent of terminals at Montreal and then superintendent of car service of the eastern lines. In 1917, during the World War, he left railway service to become general secretary of the Canadian Railway War Board, returning to the C. P. R. in 1920 as assistant general superintendent of the Ontario district. Two years later he was promoted to general superintendent of the Algoma district, and in 1924 he was further advanced to assistant to the senior vice-president with headquarters at Montreal. He has been general manager of the western lines at Winnipeg since November, 1927.

Mr. Humphrey entered railway service as a telegraph operator on the Intercolonial Railway (now Canadian National) in 1896. The following year he became a telegraph operator on the Boston & Maine, returning to the Intercolonial in the same capacity in 1901. In 1902, Mr. Humphrey entered the service of the Canadian Pacific as a telegraph operator, being advanced successively to train dispatcher, chief train dispatcher, and car service and fuel agent of the Saskatchewan district. In 1915, he was promoted to superintendent of car service of the western lines, with headquarters at Winnipeg. In 1916, he was appointed car service and fuel agent of the eastern lines, with headquarters at Montreal, and after a few months in this position he became

H. J. Humphrey

superintendent, with headquarters at Farnham, Que., being transferred later to Montreal, Brownville Junction, Me., and Toronto. In August, 1922, he was appointed assistant general superintendent of the Ontario district, with headquarters at Toronto. Mr. Humphrey was promoted to general superintendent of the Algoma district, with headquarters at North Bay, Ont., in March, 1924, and in October, 1927, he became assistant to the vice-president. He was appointed general manager, eastern lines, at Montreal in May, 1933.

OPERATING

C. W. Martyn, assistant superintendent of the Portland division of the Southern Pacific, with headquarters at Portland, Ore., has retired after 44 years of continuous service with this company.

F. W. Cantrell, chief dispatcher on the Southern Pacific at Portland, Ore., has been promoted to inspector of transportation at San Francisco, Cal., succeeding **L. Kocher,** who has been appointed trainmaster on the Portland division at Roseburg, Ore. Mr. Kocher succeeds **G. H. Kilborn,** who has been transferred to Eugene, Ore., replacing **J. D. Russell.**

W. A. Mather, assistant to vice-president of the Canadian Pacific, with headquarters at Montreal, Que., has been promoted to general manager of the western lines, with headquarters at Winnipeg, Man., succeeding **William M. Neal,** whose election as vice-president is noted elsewhere in these columns. **C. A. Cotterell,** general superintendent of the British Columbia district, has been appointed to the newly-created position of assistant general manager, with headquarters, as before, at Vancouver, B. C.

H. A. Benton, division superintendent for the Seaboard Air Line at Savannah, Ga., has been appointed assistant general manager with headquarters at Norfolk, Va., succeeding **L. B. Burns,** deceased. **C. H. Sauls,** superintendent, with headquarters at Hamlet, N. C., has been ap-

Continued on next left-hand page

UNION C.T.C.

Facilitates -

Switching Movements.

Meetings on Close Schedule.

Handling of Additional Traffic.

Delivery of Emergency Instructions.

This modern method of signaling is an economical solution of many operating problems. This system provides a means for greater efficiency in the handling of trains and more economical utilization of existing trackage. » » » » » » »

Shall we furnish complete details?

1881 **Union Switch & Signal Co.** 1934

SWISSVALE, PA.

NEW YORK MONTREAL CHICAGO ST. LOUIS SAN FRANCISCO

pointed superintendent, South Carolina division, with headquarters at Savannah, Ga., succeeding Mr. Benton. **R. W. Rogers,** superintendent at Atlanta, Ga., has been appointed superintendent of the North Carolina division, with headquarters at Hamlet, N. C., succeeding Mr. Sauls. **M. H. Gold** has been appointed superintendent, Georgia division, with headquarters at Atlanta, Ga., succeeding Mr. Rogers.

MECHANICAL

S. M. Sadle, a locomotive engineer on the Chicago, Burlington & Quincy, has been appointed to the newly-created position of system fuel supervisor, with headquarters at Chicago.

TRAFFIC

M. B. Baker, commercial agent for the Chicago, Burlington & Quincy, with headquarters at Oakland, Cal., has been promoted to assistant general agent (freight department), with headquarters at San Francisco, Cal. **John F. Vallery,** assistant general freight agent at Denver, Colo., has retired and his duties have been assigned to **H. L. Ford,** general agent, Denver.

Sam Jones, whose appointment as assistant freight traffic manager for the Seaboard Air Line was announced in the *Railway Age* of September 8, was born on January 24, 1891, at Hazel, Ky. He entered the service of the Nashville, Chattanooga & St. Louis as agent in 1904. In 1909 he went with the Illinois Central as telegrapher. From 1910 to May, 1934, he served consecutively as agent, commercial agent, general agent and acting assistant freight traffic manager of the Seaboard Air Line.

A. S. Robertson, whose appointment as traffic manager of the Montour was noted in the *Railway Age* of August 25, was born on November 26, 1901, at Bridge of Weir, Scotland. He was graduated

A. S. Robertson

from Camp Hill High School, Paisley, Scotland, in June, 1916, and from Royal Air Force Military College, London, Eng., in April, 1919. Mr. Robertson entered the service of the Pittsburgh & Lake Erie in April, 1922, as clerk at Montour Junction, Pa. He was employed thereafter at several stations on that road in various clerical capacities and later returned to Montour Junction as assistant chief clerk. In June, 1929, he resigned to become agent of the Montour at Mifflin Junction, Pa., and also served as agent for the Montour at Library, Pa. He entered the traffic department in August, 1932, and was appointed traffic manager in August, 1934.

ENGINEERING AND SIGNALING

W. C. Perkins, general roadmaster of the Oregon Short Line (part of the Union Pacific System), with headquarters at Pocatello, Ida., has been promoted to division engineer of the Kansas division of the Union Pacific Railroad, with headquarters at Kansas City, Mo., succeeding **L. I. Hammond.**

SPECIAL

A. J. Hills, whose appointment as chief of personnel for the Canadian National was noted in the *Railway Age* of September 1, was born on February 15, 1879,

A. J. Hills

at Toronto, Ont., and was educated at Ridley College, St. Catharine, Ont., Upper Canada College, Toronto, and University of Toronto. He entered the service of the Manitoba South-Eastern (now a part of the Canadian Northern) in the construction department in April, 1899. From 1901 to 1908 he served consecutively in the operating department at Winnipeg, Man., and in the office of the third vice-president of the same road at Toronto. In January, 1908, he became superintendent for the Canadian Northern Ontario at Toronto, and in July, 1914, he was appointed general superintendent of the Ontario lines of the Canadian Northern at Toronto. In November, 1918, he became assistant to president of the same system (now operated as a part of the Canadian National), with jurisdiction over Canadian Government Railways. In August, 1920, his jurisdiction was extended to cover the Grand Trunk Pacific and in December, 1920, he also became assistant to president of the Canadian Government Merchant Marine, Ltd., at Toronto. At the final co-ordination of the Canadian National System in 1923, Mr. Hills came to Montreal as assistant to the operating vice-president. In that position Mr. Hills has handled a great deal of the staff relations work of the system.

OBITUARY

W. G. Brantley, vice-president and general counsel of the Fruit Growers' Express Company, and counsel for the Presidents' Conference Committee on Federal Valuation of Railroads, died at his home in Washington, D. C., on September 11.

William M. Jaekle, engineer maintenance of way and structures of the Southern Pacific, Pacific Lines, with headquarters at San Francisco, Cal., died on September 3 of a heart attack following a brief illness. Mr. Jaekle had served in engineering capacities with various railroads for 30 years and had been engineer maintenance of way and structures of the Southern Pacific since the spring of 1932. He was born on January 9, 1883, at Brooklyn, N. Y., and received his engineering education at Cooper Institute. He obtained his first railway experience in 1904 as a transitman on the New York division of the Erie, and following a year in this capacity he joined the Missouri Pacific as an assistant engineer at St. Louis, Mo. Mr. Jaekle, however, soon left this company to go to Mexico where he served until 1907 as a transitman and chief of party on railroad location and construction with the National Railways of Mexico. He then joined the Southern Pacific as assistant engineer at Sacramento, Cal., where he was made assistant division engineer in 1909. In the following year he went with the Oregon-Washington Railroad & Navigation Co. (then affiliated with the Southern Pacific) as division engineer at Portland, Ore. In 1913 he returned to the Southern Pacific as division engineer at Bakersfield, Cal., being transferred to Los Angeles four years later. During federal control of the railroads, Mr. Jaekle acted as engineer of maintenance of the lines south of Portland and west of Ogden, Utah, and El Paso, Tex. Following the termination of federal control in 1920, he

William M. Jaekle

was made assistant engineer maintenance of way and structures of the Southern Pacific, Pacific Lines, at San Francisco, and in 1932 he was further advanced to engineer maintenance of way and structures.